

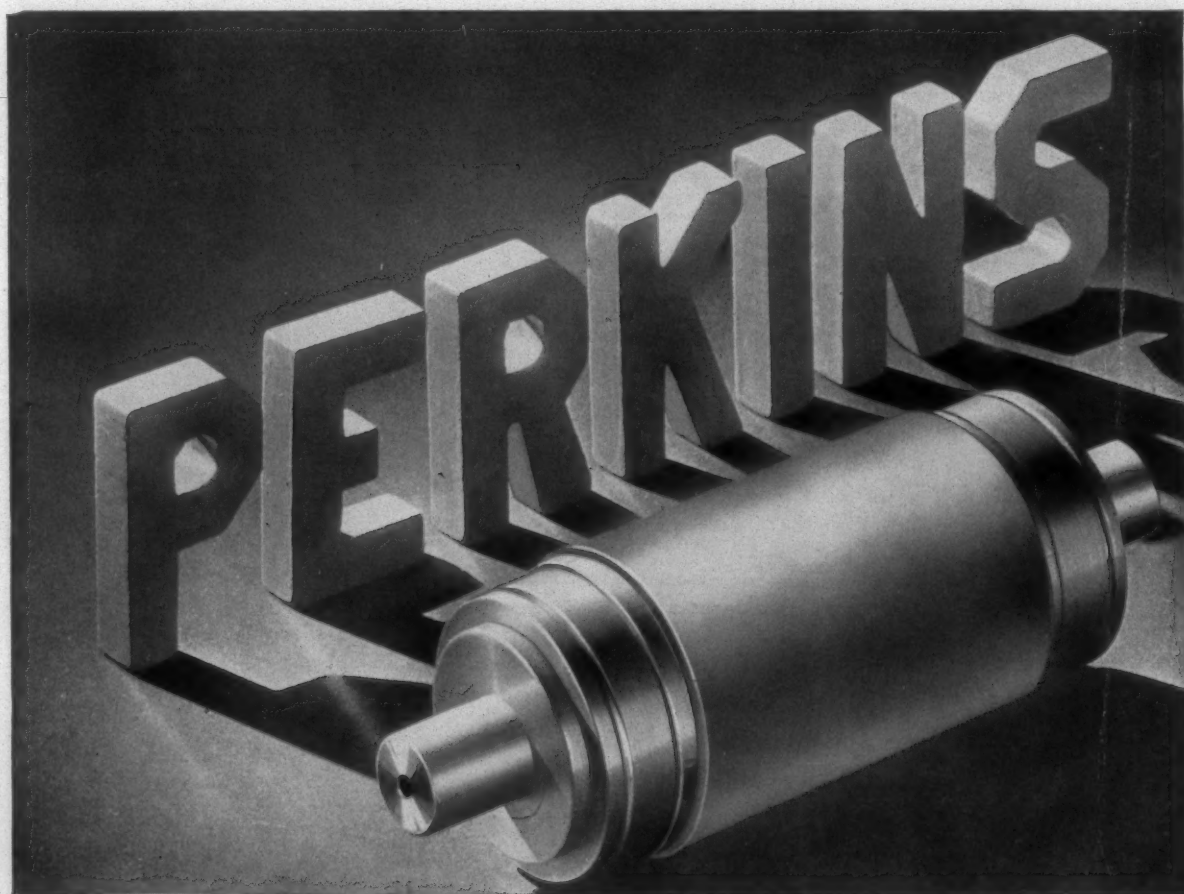
TEXTILE BULLETIN

Vol. 51

FEBRUARY 25, 1937

No. 26

Perkins Quality Rolls



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THAN THE ROLLS
IN IT
HOLYOKE

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WHOLE GUM, CRUSHED, GRANULATED, POWDERED

Since the most desirable gums are from the early pickings, anticipate your needs now and send us your order while stocks are complete. Immediate or future delivery.

Corner view of our warehouse showing part of our large stocks of Gums.

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Murchison Explains American-Japanese Trade Pact

APPPOINTMENT of the United States members of the joint American-Japanese committee created under the recently negotiated quota agreement limiting shipments of Japanese cotton piece goods to the United States for the next two years will be announced within a few days by Dr. Claudius T. Murchison, President of the Cotton-Textile Institute, and Chairman of the American cotton industry's mission to Japan.

Following its formal approval of the agreement, the Institute's Executive Committee authorized Dr. Murchison to designate the five American members of the committee which will not only administer the piece goods agreement but will also undertake to effect similar agreements covering other cotton specialties, including both manufactured goods and yarns and thread.

Under the agreement, the committee of ten members, including three American and two Japanese members in the United States and two American and three Japanese members in Japan, is to be organized and begin functioning on or before April 1st.

The full text of the "Memorandum of understanding," reached at Osaka on January 22nd between the American mission and representatives of the Japanese cotton textile industry, made public by Dr. Murchison, is as follows:

MEMORANDUM OF UNDERSTANDING

The American Textile Mission and the representatives of the Japanese cotton textile industry understand the following to be a correct statement of the principles and procedures mutually approved by them in their conferences of January 15th to 22nd, 1937, inclusive.

A. Piece Goods.

1. The Japanese representatives accept quota limitation as the most practicable means of arriving at a satisfactory arrangement with respect to their textile exports to Continental United States.

2. On cotton piece goods a quantity limitation shall at once be made applicable as of January 1, 1937. The basic quotas applicable to the years 1937 and 1938 are as follows: For the year 1937 the basic quota shall be 155 million square yards or the volume of contracts on hand on January 21, 1937, for Japanese piece goods for shipment to the United States in 1937, whichever amount is the smaller. For the year 1938, the basic quota shall be 100 million square yards subject to the following proviso:

The Japanese industry is privileged to transfer not more than one-fourth (25,000,000 square yards) of the 1938 apportionment to the 1937 quota, but the 1938 shipments must be diminished below the basic quota by such amount as the 1937 shipments are increased above the latter year's basic quota.

This agreement may be expressed otherwise as follows:

The quotas agreed upon for the two-year period constitute a maximum of 255 million square yards. Of this amount the 1937 apportionment shall not exceed 180 million square yards, or be less than 155 million square yards or the volume of orders on hand on January 21, 1937, for shipment to the United States in 1937, whichever is the smaller figure.

3. In the measurements requisite to the enforcement of these quota arrangements, the official data of export shipments as compiled by the Japanese Government shall be used. The procedure followed shall be similar to that used in the administration of the quota arrangement on cotton rugs now in effect between the two governments.

The entire responsibility for the attainment of the objectives sought in this quota arrangement shall be lodged with the Japanese industry or its authorized agencies and the obligation to accomplish these objectives is regarded by the American industry as predicated on considerations of good faith rather than on those of contractual and technical character.

4. For the purpose of satisfying these quota arrangements, cotton piece goods shall be regarded as inclusive of all woven piece goods, the principal material of which is cotton.

5. The arrangements above provided for shall not in any way include existing agreements on cotton goods between the two industries or between the two governments.

6. Should the trans-shipments of goods of Japanese origin from third countries to the United States tend to render ineffectual the purposes of these quota arrangements, the Japanese industry agrees to subtract the amount of such trans-shipments as compiled by the United States Customs Service from the volume of direct shipments from Japan to the United States. The American commission will undertake to reduce the volume of trans-shipments in two ways: 1, to transmit to the Japanese industry monthly the amount of such trans-ship-

(Continued on Page 24)

The Applicability of Spectrophotometry to the Solution of Color Problems in the Textile Industry

By Arthur C. Hardy*

WHEN a telephone engineer discusses the subject of telephony, the discussion is likely to concern the design of transmitters, receivers, transmission lines, and automatic switching apparatus. The fact that a telephone permits a conversation to be carried on between persons located some distance apart may never be mentioned. In the same way, it is possible to discuss either spectrophotometers or spectrophotometry but, as the title implies, this paper is concerned almost exclusively with the latter subject.

The first spectrophotometer was built only a relatively few years after the first telephone, and it is patently an under-statement to assert that the spectrophotometer has not been accepted with equal rapidity. There are two reasons for this. When the telephone arrived, everyone was accustomed to conversing with persons close by, and it required little imagination to conceive of carrying on a conversation at a distance. A spectrophotometer, on the other hand, performs a function and yields information that can be acquired in no other manner. Hence, its value was not so readily visualized. A second reason for the relatively slow rate of increase in the use of spectrophotometers can be traced to the nature of the things that have been said and written about them. The spectrophotometer, like the telephone, is an instrument that operates on physical principles, and it generally falls to the lot of the physicist to discuss this subject. The physicist usually concerns himself with the details of the various forms that the instrument may take. This conveys the impression that spectrophotometry is a highly technical subject, whereas the fact is that a spectrophotometer, like a telephone, is merely difficult to construct and is not especially difficult to use.

Although spectrophotometry is often used to good advantage in both ultraviolet and infrared regions of the spectrum, this paper is confined to spectrophotometry in the spectral region where a spectrophotometer competes in some respects with the human eye. It is useful therefore to consider in some detail the procedure by which an observer inspects a piece of colored cloth. This procedure is illustrated somewhat schematically in Fig. 1, which represents an observer looking normally at the surface of the cloth which is illuminated by a cone of light falling on it at an oblique angle. In principle, spectrophotometry differs from this situation in only two respects. In the first place, instead of illuminating the test sample with white light, a prism or other suitable

device would be inserted in the incident beam. In this way, the sample is illuminated by monochromatic light whose wave length is adjustable at will. This simplifies the problem because ordinary white light is a mixture of all the various wave lengths, usually in unknown proportions. The second difference is that the observer would be provided with a photometric field which enables the

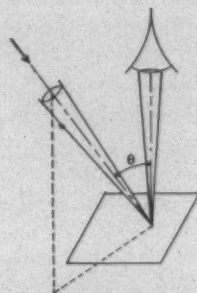


Fig. 1

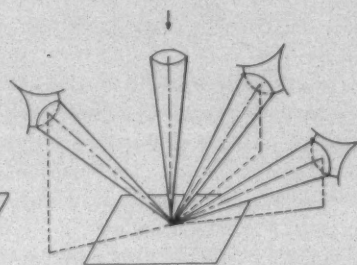


Fig. 2

brightness of the test sample to be compared with the brightness of a reproducible white standard under the same illumination. Since both halves of the field are illuminated at all times by monochromatic light of the same wave length, the characteristics of the visual apparatus of the observer do not affect the results obtained. Indeed, it is possible to replace the eye of the observer by some physical detector such as a photo-electric cell, and, in a properly designed instrument, the characteristics of the cell have no influence on the results.

In practice, an observer would not confine his observations of the test sample to a single mode of illumination and observation. Instead, he would orient the sample at various angles and would attempt mentally to obtain an estimate of the average color. This is represented schematically in Fig. 2 wherein a beam of light falls normally on the surface of the sample and the observer views the sample from various directions, one after the other. A similar result is achieved in spectrophotometry by using what is called an integrating sphere. This device enables the operator of the instrument, in effect, to regard the sample simultaneously from all directions. Although the integrating sphere provides a mode of illumination and observation that is believed to yield the most significant results, it should be understood that a spectrophotometer can be arranged to correspond to any mode of illumination and observation that may be desired.

Assuming that a preferred mode of illumination and observation has been adopted, it is then in order to discuss the possible applications of spectrophotometry, which have here been separated into six categories. In the first

*Professor of Optics and Photography, Massachusetts Institute of Technology. Presented at the Annual Meeting of the American Association of Textile Chemists and Colorists, in Providence, R. I.

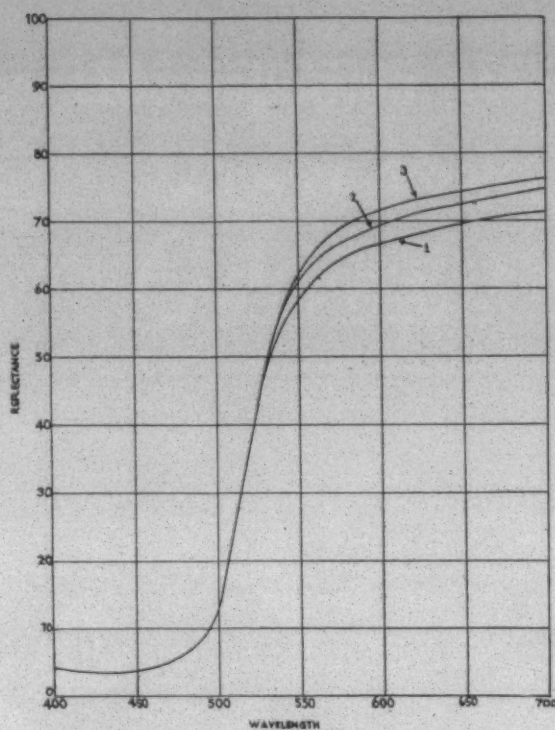


Fig. 3

place, it is abundantly evident that spectrophotometry provides the only fundamental method of color measurement and specification. This is a direct consequence of the fact that the measurements involve merely the determination of the wave length and relative quantities of light. This makes it unnecessary to relate the results to any material color standard whose color may not remain constant. This of course suggests the use of spectrophotometry for the maintenance of industrial color standards, which otherwise may drift. Of even greater significance is the fact that it is now possible to begin the creation of a body of color knowledge that will be useful both in this and in succeeding generations. Indeed, if we are ever to acquire a fund of fundamental information regarding the behavior of dyestuffs under various conditions or regarding color combinations that have been found pleasing, it will certainly be through the agency of spectrophotometry or, at least, through the agency of some method of color specification that has its roots in spectrophotometry.

A second important application of spectrophotometry results from the insight that it gives into the behavior of dyes and pigments when they are mixed. Thus, anyone who has once seen the spectrophotometric curve for a typical blue dye, remembers that the dye absorbs in the red, orange, and yellow regions of the spectrum. Since a typical yellow dye absorbs in the blue and violet regions of the spectrum, a textile fabric dyed with a mixture of the two will reflect only that region that is not absorbed—namely, green. Under many conditions, this qualitative reasoning can be made quantitative. The only procedure available to those who are unacquainted with spectrophotometric results is to learn empirically how each dyestuff will behave in mixtures. This is a vastly more complicated procedure because it involves learning what the result will be in the case of all the available dyestuffs taken two at a time, three at a time, etc., in all possible proportions. As evidence that the concepts of spectro-

photometry do simplify one's mental processes, it is merely necessary to mention that everyone who has once become familiar with the concepts invariably adopts them as the basis for all his reasoning.

A third category is the analytical ability possessed by a spectrophotometer. In this respect it has no competitor because the human eye has only a very rudimentary sort of analytical ability. Even so common a source as sunlight is not intuitively resolved by the unaided eye into its spectral components. Hence, the fact that the differences between two color samples are indistinguishable to the eye does not mean that their reflection factors are the same at every wave length. The samples may be a perfect visual match under one illuminant and a poor visual match under another illuminant. On the other hand, matches made under spectrophotometric control are valid under monochromatic light of every wave length and therefore under every possible illuminant.

The application of spectrophotometry often leads to the discovery of new color phenomena. As an example, reference may be made to a paper by Dr. R. D. Nutting who undertook to investigate the common belief that under some circumstances a spectrophotometer is unable to detect color differences that are as minute as those which the trained eye can perceive. One of these classical circumstances is the color difference produced by adding a small amount of crocein scarlet to a wool swatch dyed with tartrazine. It happens that crocein scarlet produces a maximum of absorption at a wave length of 510 millimicrons in the blue region of the spectrum. It might therefore be expected that, if a spectrophotometer is to show the presence of crocein scarlet, it should be most evident in measurements made at this wave length. In fact, this assumption is the basis of a procedure by which dyestuffs manufacturers determine dye strengths. The procedure amounts to an abridged form of spectrophotometry in which measurements are made at only one wave length—namely, the wave length corresponding to the peak of the absorption band of the dye.

Some typical curves obtained by Dr. Nutting are reproduced in Fig. 3. Curve 1 represents the curve of a wool swatch dyed with tartrazine in a concentration of 1 per cent by weight of the cloth. Curve 2 represents a similar dyeing to which crocein scarlet has been added in the concentration of 0.0001 per cent. Curve 3 shows the effect of increasing the concentration of crocein scarlet to 0.0002 per cent. It will be observed that the presence of crocein scarlet manifests itself, not by decreasing the reflection factor at 510 millimicrons, but by increasing the reflection factor throughout the spectral region beyond 550 millimicrons. To a trained observer, the color difference between swatches 1 and 3 was just discernible, whereas the difference between 1 and 2 was not. However, the importance of this paper is due not so much to its vindication of the spectrophotometer as to the discovery of a new phenomenon in the behavior of dyestuffs. An ideal yellow dye should absorb completely in the blue and violet regions of the spectrum and should not absorb elsewhere. It is apparent from the curves that the addition of minute traces of crocein scarlet, makes tartrazine a closer approach to an ideal yellow. Undoubtedly, further study will indicate that this behavior of crocein scarlet is not unique. Since the effect is not observed in

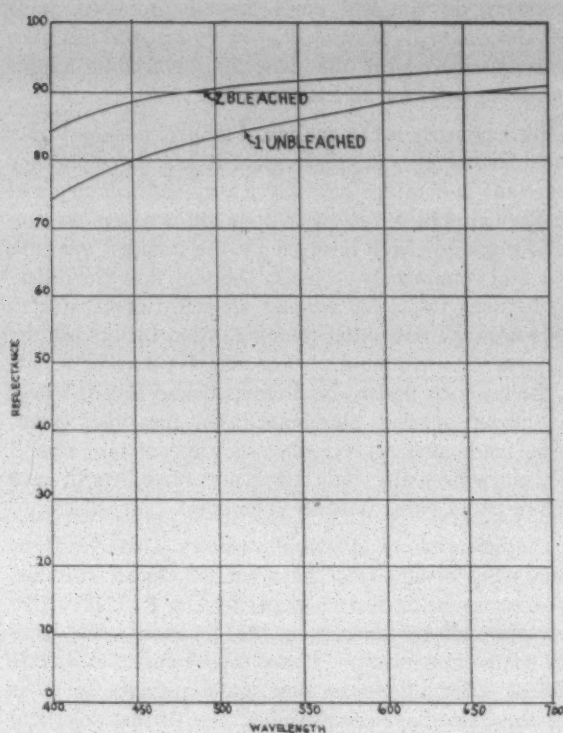


Fig. 4

an aqueous solution, the crocein scarlet evidently affects the manner in which the tartrazine is deposited on the wool fibers.

Another advantage accruing from spectrophotometry is the possibility that it provides of representing colors graphically. This is customarily done by assuming a standard observer, and today all civilized countries have officially adopted the observer whose characteristics were specified in the 1931 Report of the International Commission on Illumination. The procedures have been published in several places and it may merely be mentioned here that the graphical form of representation to which it leads is exceedingly useful. It is possible, for example, to adopt the routine procedure of graphically recording the color of various shipments of a product whose color is nominally constant. In this way, a line can presently be drawn that will form a closed figure such that all the colors receiving customer acceptance will lie inside the enclosure and all those that were refused will lie outside. This serves then as an indication of a satisfactory tolerance in the commercial production of such a material.

The recent work of Dr. D. L. MacAdam should also be mentioned in this connection. MacAdam started with the premise that no surface could reflect more than 100 per cent of the light incident upon it nor less than 0 per cent. He then proceeded theoretically to determine what colors could be obtained, assuming unlimited freedom in the choice of spectrophotometric curves. In this way, he was able to construct a color solid containing all colors that can ever be produced. By reference to this solid, anyone engaged in the production of new colors, either dyestuffs or dyed materials, can determine in advance whether it is theoretically possible to achieve such a color. As a guide for research programs, such information is invaluable.

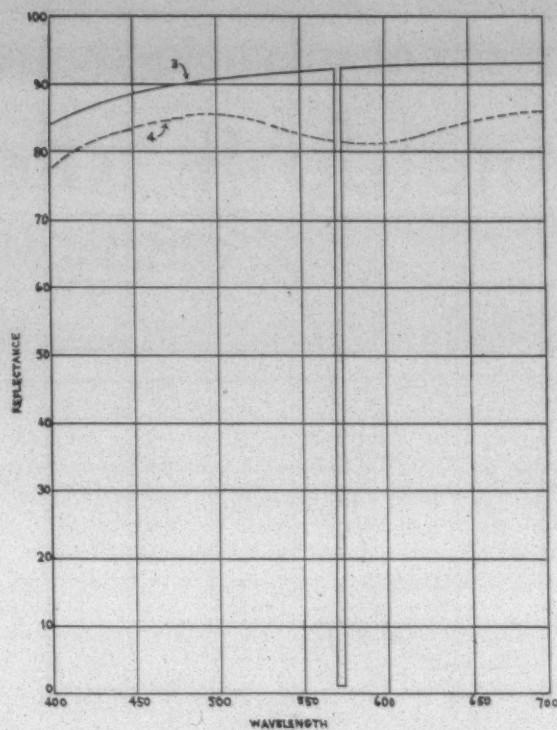


Fig. 5

The last of the six categories is one that is difficult to classify but can be illustrated by an example. Curve 1 in Fig. 4 is the spectrophotometric curve of a piece of unbleached cotton cloth. Curve 2 is the curve for the same cloth after bleaching. It is evident that the bleaching has increased the brightness of the cloth and at the same time has made it less yellow. Assuming that further bleaching is impracticable, a frequent problem is that of neutralizing the residual yellow. The standard method of attack is to dye the cloth with a low concentration of a blue dye, the concentration being sufficient to make the sample neither blue nor yellow. From a purely optical standpoint, the best blue dye is the one that neutralizes the yellowness of the cloth with the least reduction in brightness. This means that all the commercial dyestuffs must be investigated at several concentrations before the "practical" solution to the problem can be found.

Spectrophotometry provides an interesting theoretical solution to this problem. Computations show that, when illuminated by white light, the dominant wave length of the bleached sample is 575 millimicrons. It can be proved by abstract reasoning that if Curve 2 in Fig. 4 could be modified to look like Curve 3 in Fig. 5, the yellowness of the sample would be neutralized with the least sacrifice of brightness. This evidently calls for a blue dye having a strong absorption band at 575 millimicrons, the width of the band being such as to just neutralize the excess yellow in the sample.

There are at the present time no commercial blue dyes which meet these specifications. In fact, the practical solution to this problem falls far short of the ideal, as is indicated by Curve 4 of Fig. 5. This curve shows that the blue dye which was selected in this typical case

(Continued on Page 24)

LESS OXIDATION, LESS GUMMING
Lower Power Cost
WITH GULFGEM OIL



Many Mills Report Over-all Operating Costs Reduced With This Improved Spindle Lubricant in Service

LEADING mill operators have established this fact: Over-all operating costs usually have a direct relationship to the efficiency of spindle lubrication. With Gulfgem Oil in service, many mills are reporting the lowest operating costs in their experience.

Because Gulfgem Oil is refined by the ALCHLOR Process, it has highest resistance to oxidation and gumming. Friction drag in spindles—from these causes—is minimized, and power consumption is kept at lowest levels possible.

If you are not using Gulfgem Oil, talk to a Gulf representative about the possibility of effecting economies in power and maintenance—as well as improving plant production—through the use of this high quality spindle lubricant.

Six Reasons

why GULFGEM OILS are the world's finest spindle oils

- 1 MINIMUM POWER CONSUMPTION.** As an oil oxidizes, viscosity and gum formation increase. More power is required to overcome the increased internal friction. The stability built in GULFGEM OIL by the Aluminum Chloride Process provides an oil with highest resistance to oxidation.
- 2 TOUGH FILM INSURES MINIMUM WEAR.** Because of the advanced methods employed in the manufacture of GULFGEM OIL, it provides a tough film which insures efficient lubrication over a long period of time. Thus, spindle wear is reduced to a minimum.
- 3 MINIMUM ENDS DOWN.** Maximum stability with minimum change in viscosity—either from temperature variation or from oxidation—insures constant load and smooth operation. The result is fewer breaks and ends down.
- 4 LOWEST OIL CONSUMPTION.** Because of the unparalleled stability of GULFGEM OIL, it can be used over long periods of time with minimum deterioration. Thus, long life and a low rate of consumption are assured.
- 5 MAXIMUM INTERVALS BETWEEN SPINDLE BASE CLEANING.** If an oil oxidizes and gums at a rapid rate, spindles must be cleaned and lubricated at frequent intervals. The stability of GULFGEM OIL greatly reduces the frequency of shut-downs for this purpose.
- 6 LOWER PRODUCTION COST.** Less frequent need for oil changes, time saved by fewer shut-downs, lower maintenance expense and lower power consumption reflect substantial savings in total operating costs.



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outstanding and authoritative publication featuring this event, and, as usual, the
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Mill News Items

LANETT, ALA.—The Lanett Bleachery & Dye Works have completed plans for the construction of an annex to the cloth warehouse, estimated to cost \$65,000. Work will begin shortly.

LAVONIA, GA.—The Lavonia Manufacturing Company has paid off in full its loan from the RFC, the last payment being one year in advance of its due date. In its final settlement letter the RFC expressed regret at losing such a good customer. J. M. Batson is president and treasurer of the Lavonia Manufacturing Company.

KINGSPORT, TENN.—In continuing its building expansion program, the Tennessee Eastman Corporation has had under construction a building, which is to be called the Employees' Building. This building will be three stories high and will contain a cafeteria, basketball court, gymnasium, reading room, Camera Club room and a room for group meetings. Outside of the building there will be croquet, volley ball and other outdoor sports.

VALDESE, N. C.—The suit brought by the Bladenboro Cotton Mills against the receiver of the Walden Weavers, Inc., of Valdese on an alleged breach of contract regarding the purchase of yarn was concluded in Burke County Superior Court here when a jury returned a verdict in favor of the defendant, the verdict being "no damages."

The civil case that occupied the court for two days was featured by the array of legal talent participating.

ROME, GA.—With the Batson Cook Construction Company of West Point, Ga., in charge of the construction work, work is going forward rapidly at the local unit of the Tubize Chatillon Corporation on the addition to the mills. The capacity of the plant will be greatly increased, it is stated, when this addition has been completed and put into operation, and several hundred additional employees will be added to the present payroll. There are two additions to the present plant, two new buildings to be used for storage of chemicals and a new filter plant.

GREENSBORO, N. C.—A dividend of 15 cents a share has been voted by the board of directors on the 200,000 shares of common stock outstanding of the Mock, Judson, Voehringer Co., Inc., payable March 12th to stockholders of record March 5th.

The board also declared a dividend of \$1.75 on the 7 per cent cumulative preferred stock, payable April 1st, to stock of record March 15th.

MOORESVILLE, N. C.—At the stockholders' meeting of the Mooresville Cotton Mills, Inc., President John F. Matheson reported a net earning for the year of \$108,500. The report also stated the payroll now was greater than it had ever been, which is approximately \$30,000 a week. The mills employ 2,000 or more workers.

Matheson was re-elected president; Robert Lassiter, chairman of the board of directors; Ernest Bohannon, secretary-treasurer; Fred Clark, assistant secretary-treasurer.

(Additional Mill News Pages 20 and 21)

A Real IMPROVEMENT in Picker Stick Bumpers



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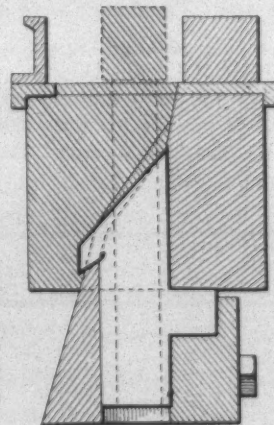
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LEATHER BUMPER

Designed to be clamped in operative position without removing the bolts which hold the quill chute or deflection plate in position, and without the necessity of passing one or more of the bolts through the bumper as in previous types.

Made of genuine laminated *Bondaron* Leather for exceptional wearing qualities — plus resilience. Its cushioning action greatly reduces the possibility of splitting wooden quills.



Cross-section of loom showing Bumper in operative position.

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617 Arch Street Philadelphia, Pa.

Leather Curriers, Importers and Manufacturers
of Belting and Textile Leathers

Well Locations in Carolina Slate Belt of The Piedmont Plateau

By Howard N. Butler, Engineer

IN the past, little or no attention was given to the location of wells in regard to the yield. Generally the location was selected in reference to existing pipe lines, storage or convenience to the power plant. Quite frequently the main idea was to place the well and pump house in some obscure corner so as to be out of the way. By this method of locating the water supply the results quite often prove very discouraging.

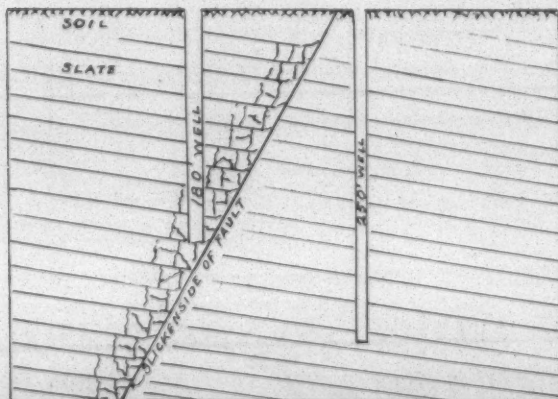
In this section we have three physiographic provinces: The Coastal Plains are made up of geological formations, consisting of unconsolidated clays and sands; also marl beds in the eastern part. The Piedmont Plateau has various formations consisting of crystalline rocks; granite, metamorphic volcanic slates, schists, igneous rocks, etc. These belts or formations run northeast or in a south-westerly direction. We also have two narrow beds of sedimentary shales, sandstones and slates known as the triassic, one of them is in the Deep River section, the other in the Dan River section. The shales of this formation are dense and nearly impervious to water. In the west we have the Appalachian Mountain section consisting of gneisses, granite, schists, marble, etc.

Years ago a four-inch well was drilled for a cotton mill in Stanly County. The location was made in reference to the mill and power plant and not to the geological formations through which the water must pass to get into the well. The results were a well 250 feet deep yielding 20 gallons per minute. Last year the owners decided to increase the water supply. Before the drilling company started the well a careful survey was made. In the railroad cut beside the mill, slate stratum was exposed, cut or displaced by a fault. The direction of this fault was found to extend close by the side of the old existing well.

pressure known as slickensides on the footwall side of the fault which as a rule moves up, and the hanging wall or other side moves down. On the hanging wall side of the fault the thin strata of slates are more or less broken and crushed, forming a broken zone parallel to the fault, and as water seeps through the overlying soils in the form of rain it follows the cracks and crevasses in the slates to the broken zone made by the fault and is dammed off from the other side by the smooth impervious face of the fault. On this side the old well was located.

The new well was located on the opposite side of the fault from the old one but far enough away so that the well would encounter the broken zone at a depth of about 150 feet. This well was drilled eight inches in diameter and an 8-inch casing driven down into the first impervious stratum of rock cutting off surface contamination. As drilling progressed every few feet, tests were run to determine the yield. About six gallons per minute was all that could be obtained until the well was 130 feet deep, then the yield started to increase. Drilling continued until a depth of 180 feet was reached. A deep well test pump was installed in the well and an altimeter gauge with a small copper pipe was used to determine the pumping level or draw down at different pumping rates. After 24 hours of continuous pumping, the well was found to yield 110 gallons per minute at 102 feet pumping level. At a lower depth the yield could be increased slightly but the pumping cost or power consumed would be a greater proportion than the yield of water, for then all of the water would have to be raised the entire depth of the well instead of 102 feet.

A modern turbine pump was installed in this well and the water problem should be settled for some time to come. The old well which was about 100 feet from the new one is a representative well in the slate belt. Fifty wells in this belt average 216 feet deep and yield 21 gallons per minute.



Courtesy Carolina Drilling & Equipment Co.

The dislocation of rocks in the faulting plain takes place under tremendous pressure. As a result, slates are generally smoothed and polished by the rubbing under



New and Old Well

Quite a few wells have been drilled in this section with little water so that it can be readily seen that a careful

(Continued on Page 25)

Mill News Items

ELKIN, N. C.—Tuesday, February 9th, marked the date of breaking ground for a new addition to the main building of the Chatham Manufacturing plant at Elkin. The new addition is to be of the same type architecture as the last addition built in 1928 and 1929. It is to be 74 feet in length and will be the same width as the present will, 112 feet.

Fifty looms will be installed on the first floor, with associated spinning and carding machinery on the floors above.

The work of installing fire protection, water, sewer and other underground lines is progressing rapidly. Fair weather permitting, it is hoped to be able to start the brick work by next week.

The building is under the supervision of Frank Blum, contractor of Winston-Salem.

DANVILLE, VA.—Stockholders of the Riverside and Dan River Cotton Mills took what is conceded to be the first step toward retirement of the preferred shares. Over the stout objection of several women preferred shareholders they voted for an issue of 300,000 additional shares of common stock at par value of \$25, thus doubling the total amount of the common. The board of directors will issue this stock after accrued and unpaid dividends amounting to \$6 per share have been paid to the pre-

ferred shareholders at a ratio of four and one.

The board of directors was reelected, with John M. Miller, of Richmond, renamed chairman. Robert R. West, president of the corporation, in reporting on the state of the \$15,000,000 corporation, said widening manufacturing margins improved earnings the past year, permitting not only retiring nearly half of the deferred dividends of the preferred stock but also providing for a wage increase. The company, he said, has the widest distribution of goods in its history, providing "a substantial backlog of unfilled orders." The volume of operations is reflected in his figures: One hundred and twenty-four thousand bales of cotton consumed, 55,000,000 pounds of goods woven and every pound of it sold during the past year.

West reminded the stockholders of the possibilities "of severe reactions," but pledged continued effort of the management to maintain an efficient and stable manufacturing organization.

The newly-elected board of directors reorganized and ordered another of the past due dividends paid to preferred shareholders. This will amount to \$225,000, or \$3 per share, and 65 cents per share interest. The sum is payable March 15th to stockholders of record at the close of business March 4th. This leaves \$3 per share owing on past due preferred dividends.



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AMALTHION (Sulphur colors)

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Possess good all around fastness, particularly to light. For Cotton and Rayon. Complete color range.

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Many Processing Improvements During 1936

WHATEVER may be said about the financial and economic conditions of the textile industry in this and other countries it cannot be denied that a very large number of individual contributions have been made during the past year towards its progress and development, and it is almost bewildering to recall the numerous textile processing improvements which have been described in the technical and patent literature. However, in this review it is found possible to indicate the main lines of development and to draw attention to a number of new treatments and new facts concerning cotton.

PREPARATION OF MATERIALS

The preparation of cotton materials for dyeing and printing constitutes an important section of yarn and fabric processing, but it is difficult to recall any outstanding improvement. It will be remembered that a few years ago an attempt was made to popularize the use of hydrogen peroxide instead of chlorine for bleaching cotton goods, but it ultimately failed as chemick has remained easily the most widely used bleaching agent for cellulose fibres. The possibilities of a change-over to hydrogen peroxide are now perhaps, more favorable, since many improvements in the manufacture of this substance have been made and better stabilizers have been discovered, and further the price of this commodity has been much reduced. It now seems to be recognized that simple treatment of grey cotton fabrics with a solution of hydrogen peroxide is not sufficient to produce a satisfactory white and that it is necessary to give the goods a preliminary alkali boil either before or after the peroxide bleach. Since both the treatment with hydrogen peroxide and the alkali boil can be carried out successively in an ordinary kier (provided that the inside is coated with lime-cilicate to prevent catalytic decomposition of the peroxide) it would appear that this process is now worth reconsideration.

In those cases where cotton materials must be treated with hydrogen peroxide or perborate in hot alkaline solutions it has been found that the ordinary stabilizers such as sodium silicate and sodium pyrophosphate are not efficient; under these circumstances it is recommended to use instead sodium metaphosphate, while it is claimed that aluminum hydroxide and magnesium silicate are even better.

BLEACHING POWER

One authority has pointed out that in the estimation of the bleaching power of a used chlorine liquor by the usual methods it is necessary to take into consideration that any chloramines present have no bleaching power, but they react with potassium iodide and thus will be counted in with the active chlorine. An improved method is therefore described in which the total chlorine (as chloramine and hypochlorite) is first determined; the chloramine is

then determined separately after the hypochlorite has been destroyed by the gradual addition of hydrogen peroxide (a chloramine is stable to this reagent). The addition of sodium bicarbonate to sodium hypochlorite bleaching liquors is recommended, since it is stated to increase the stability of the bleach liquor and to retard degradation of the cotton being bleached.

Desizing methods which use enzymes are of considerable importance. According to one writer, it is possible to carry out the desizing with enzymes at higher temperatures than usual by adding to the bath small amounts of chromates or dichromates.

COTTON MERCERIZATION

In connection with the mercerization of cotton, attention has been directed towards an hitherto largely neglected fact that yarns spun from cotton mercerized in sliver or loose form have a quite different character from yarn mercerized in yarn form. From available facts it would seem that the mercerization of loose cotton deserves careful consideration. A number of new wetting out agents suitable for addition to mercerizing liquors have been patented.

Considerable useful information has been given by S. M. Edelstein about the relationships which exist between the concentration of the mercerizing liquor and the properties of the mercerized cotton yarn when the treatment is carried out under conditions such that the yarn is held at constant length. The resulting increased lustre is proportional to the force required to keep the yarn from shrinking, and increases up to 80 Tw. caustic soda, and the equilibrium dye absorption, moisture absorption, barium hydroxide absorption and tensile strength of the mercerized yarn increases up to a concentration of 30 Tw. but little after.

DYEING

Turning now to developments in dyeing it may be noted that considerable progress is being made in applying various compounds to cotton dyed with direct dyes so that the fastness to water and washing may be increased. Also, various attempts have been made to make cotton capable of being dyed with acid wool dyes. For increasing the fastness to water of direct dyeings it has been found that various quaternary ammonium compounds and a number of complex amines are suitable. The usual procedure consists of after-treating the dyed material for about 30 minutes with a warm solution of the agent, followed by rinsing and drying. Compounds such as octodecyl pyridinium bromide and certain ternary sulphonium and quaternary phosphonium products have also been found to increase the fastness of direct dyeings to water and washing.

The discovery has also been made that quaternary am-

(Continued on Page 17)

National Cotton Week To Climax Broadened Promotional Program

PLANs for a broadened, intensive cotton goods promotional program under the direction of the Cotton-Textile Institute were approved at the organization meeting of a Joint Cotton Promotional Advisory Committee of cotton spinners and raw cotton shippers in the Institute's Washington office. The meeting launched the first co-operative cotton promotional effort embracing cotton groups other than cotton mills and represented tangibly the growing recognition by these other groups of their equal stake in effecting a greater domestic consumption of cotton.

The program, designed to expand existing markets for cotton goods and to co-operate in the development of new outlets, is to be financed principally by equal contributions of one cent a bale from spinners and shippers on each bale of cotton sold to and processed by the participating mills. Mills representing more than 60 per cent of the active spindles in the cotton textile industry and most of the leading raw cotton shippers in the country are already enlisted in the plan. A number of important cotton futures brokers as well as compress and warehouse firms have pledged their support to the plan and ultimately, it is hoped, other cotton interests including selling

agents and converters will share in the effort.

Present at the meeting, in addition to Dr. Claudius T. Murchison, President of the Cotton-Textile Institute, who presided, were B. T. Lowe, B. T. Lowe & Co., Augusta, Ga., and John C. White, Washington, D. C., representing Robert Mayer, President of the American Cotton Shippers' Association, and Leland Anderson, Anderson-Clayton Co., and W. S. Dowdell, Weil Bros., New York; Oscar Johnston, Delta & Pine Land Co., Scott, Miss., representing the Staple Cotton Co-operative Association; C. G. Henry, Memphis, Tenn., representing the Mid-South Cotton Co-operative Association and the American Cotton Co-operative Association; W. Ray Bell, president, Association of Cotton Textile Merchants of New York; W. M. McLaurine, Charlotte, N. C., Secretary-Treasurer, American Cotton Manufacturers' Association, representing Donald Comer, President of the Association; Russell T. Fisher, Boston, Mass., President of the National Association of Cotton Manufacturers; J. C. Roberts, Gastonia, N. C., representing the combed and carded sales yarn groups of the cotton-textile industry; Jaul B. Halstead, secretary-treasurer of the Cotton-Textile Institute,

(Continued on Page 16)



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(Some of the mills where installations may be inspected)

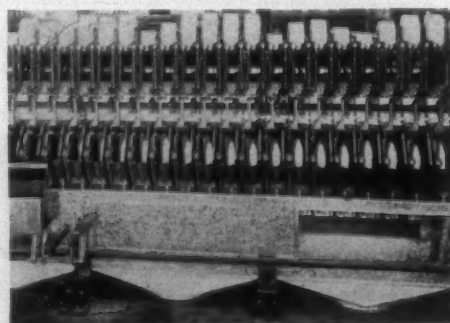
Jackson Mill, Welford, S. C.; Pacolet Mill, Pacolet, S. C., (2 plants); Whitney Mfg. Co., Whitney, S. C.; West Point Mfg. Co., Lannett, Ala.; Laurens Cotton Mill, Laurens, S. C.; Clifton Mfg. Co., Clifton, S. C.; Gainesville Cotton Mill, Gainesville, Ga.; Langdale Mills, Langdale, Ala.; Fairfax Mills, Fairfax, Ala.

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Personal News

L. H. West is overseer second shift weaving, Jennings Mill, Lumberton, N. C.

Scoville Smith has been transferred from No. 5 to No. 2 spinning at the Georgia-Kincaid Mills, Griffin, Ga.

Frank H. Naylor has resigned as agent of the Columbus (Ga.) plant of the Bibb Manufacturing Company.

Chas. A. Brooks has been transferred from No. 2 spinning at the Georgia-Kincaid Mills, Griffin, Ga., to a similar position with No. 5 Mill.

J. S. Strozier, manager of the order and service department of the Bibb Manufacturing Company, Macon, Ga., has been promoted to production manager.

John J. McKay, Jr., production manager of the Bibb Manufacturing, Macon, Ga., has been transferred to manager of men's wear and shirtings.

J. Harold Swanson has succeeded the late Dan S. Pritchett as superintendent of Georgia-Kincaid Mills No. 1, Griffin, Ga.

W. A. Woodruff, general superintendent of all of the mills of the Bibb Manufacturing Company, has been transferred to the position of factory manager.

L. R. Brumby has been promoted from assistant general superintendent to general superintendent of the mills of the Bibb Manufacturing Company.

Harry T. Allen, director of the efficiency department of the Bibb Manufacturing Company, has also been given the position of assistant general superintendent.

Mrs. B. J. Mauney, a recent graduate of Gastonia Business College, has accepted a position with the Phenix Mill, Kings Mountain.

Chas. H. Haynes, president of the Cliffside Mills, Cliffside, N. C., has been elected a director of the Charlotte National Bank, Charlotte, N. C.

W. H. Gibson, Jr., formerly of Lumberton, N. C., has accepted the position of superintendent of the Martha Mills, Thomaston, Ga.

W. C. Frazier, of Columbus, Ga., is now overseer day weaving, Micolas Cotton Mills, Opp, Ala.

C. B. Armstrong, of Siluria, Ala., is now overseer cloth room, Alabama Mills, Jasper, Ala.

J. M. Banks, formerly overseer cloth room, is now overseer weaving, Alabama Mills, Jasper, Ala.

E. S. Jenkins, of Montgomery, Ala., is now night overseer weaving, Alabama Mills, Jasper, Ala.

R. T. James, of Ozark, Ala., is now overseer carding, Bama Cotton Mills, Enterprise, Ala.

Morris Lee, of Columbus, Ga., has been made overseer new dye plant, Cowikee Mills, Eufaula, Ala.

Joseph Duncan, formerly of Anderson, S. C., is overseer carding and spinning, Jennings Mill, Lumberton, N. C.

R. C. Heywood is timekeeper at Jennings Mill, Lumberton, N. C., and not James McDuffie, as reported some time ago.

Arthur L. Burnet, formerly with Faytex Mills, Fayetteville, is now assistant superintendent, Ware Shoals Manufacturing Company, Ware Shoals, S. C.

Sam Cole, formerly overseer at Opp, Ala., is now assistant night superintendent, Cowikee Mills, Eufaula, Ala.

G. H. Gamble, of Ozark, Ala., is now assistant overseer carding and spinning, Micolas Cotton Mills, Opp, Ala.

G. R. Davis, formerly superintendent Alabama Mills, Haleyville, Ala., is now overseer carding and spinning on the second shift, Cowikee Mills, Eufaula, Ala.

Chas. A. Hayes, of Muscogee Mills, Columbus, Ga., is now overseer night weaving, Micolas Cotton Mills, Opp, Ala.

G. H. Lollis, superintendent Chiquola Mill, Honea Path, S. C., has been elected mayor of that city. J. D. Beacham, deceased, was superintendent here 26 years and mayor 15 years.

W. J. Holden has not resigned as superintendent of the L. Banks Holt Manufacturing Company, Graham, N. C., as was erroneously stated in our issue of February 12th. We regret the error.

C. L. McMahon, for ten years with Shelby Cotton Mills, and more recently with Cannon Mills, Kannapolis, as overhauler, is now overseer, first shift weaving, Jennings Mill, Lumberton, N. C.

Brumbley Pritchett has resigned as overseer weaving, Georgia-Kincaid Mills No. 1, Griffin, Ga., to accept a position as superintendent of weaving with the Eagle and Phenix Mills, Columbus, Ga.

W. K. Dana, who received his early training in Judson Mills, Greenville, is now superintendent of Laurens Cotton Mills, Laurens, S. C., succeeding J. M. Moore, who has resigned.

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FOR ALL TEXTILE PURPOSES

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QUALITY
SERVICE

E. C. Gwaltney, superintendent of the development department of the Bibb Manufacturing Company, has also assumed the duties of acting agent of the Columbus (Ga.) plant of that company.

P. L. Piercy has resigned his position as second hand at Firestone Cotton Mills, Gastonia, N. C., to accept a position as overseer of spinning, spooling and warping on the second shift at Saxon Mills, Spartanburg, S. C.

G. E. Repass, formerly superintendent Alabama Mills, Jasper, Ala., is now connected with H & B American Machine Co., Providence, R. I., in the experimental department.

OBITUARY

BEIRNE GORDON, JR.

Utica, N. Y.—Beirne Gordon, Jr., vice-president and general manager of Skenandoa Rayon Corporation, died unexpectedly February 19th as the result of an operation.

He was born in Savannah, Ga., on August 6, 1884, and educated in the Taft School, Watertown, Conn.; Sewanee Military Academy at Sewanee, Tenn., and New Bedford Textile School in New Bedford, Mass., graduating from there in 1905. From textile school Mr. Gordon went to Wamsutta Mills of New Bedford, and then to various mills at Pawtucket and Fitchburg.

In 1909 he returned to Utica and had since resided here. For one year, from 1909 to 1910, he was superintendent of Utica Knitting Mills, and until 1913, was associated with various mills. He then became active with the Skenandoa Cotton Company, first as superintendent and later as director, and in 1925, when Skenandoa Rayon Corporation was organized, Mr. Gordon became its vice-president and general manager.

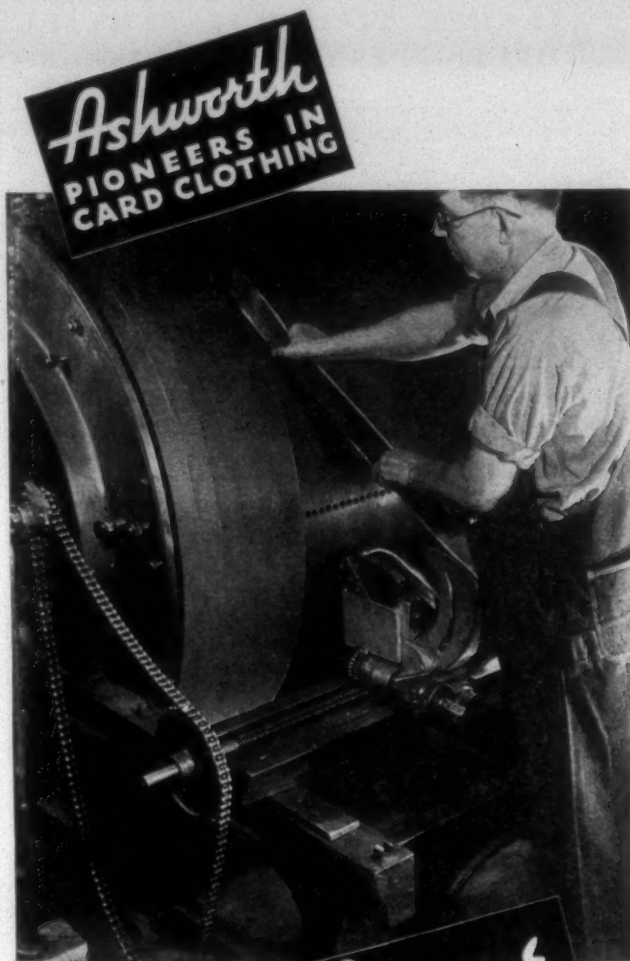
DR. L. G. HARDMAN

Dr. Lamartine G. Hardman, 80-year-old former Governor of Georgia, and president of the Harmony Grove Mills, Commerce, Ga., died of a heart ailment February 18th at Emory University Hospital. The Commerce, Ga., physician, business man and politician was elected Governor in 1927 after two unsuccessful races. He served two terms.

RUFUS I. DALTON

Rufus I. Dalton, former Mayor of Winston-Salem, N. C., died Thursday, February 18th. He was 81 years old and had been in ill health for two years. He was the father of Robt. I. Dalton, of the Whitin Machine Works, and Harry L. Dalton, of the Viscose Company, and enjoyed a very active and successful business life.

Mr. Dalton was active in church affairs, and had been a member of the board of stewards of Centenary Methodist Church for 40 years. He was a member of Winston-Salem Lodge No. 167, A. F. & A. M., the Piedmont Commandery No. 6 of Knights Templar, and Oasis Temple, Mystic Shrine.



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Live WEEKLY Journal

National Cotton Week To Climax Broadened Promotional Program

(Continued from Page 13)

and Charles K. Everett, manager of the Institute's New Uses Section.

The program, the Advisory Committee was told by Dr. Murchison and Mr. Everett, contemplates expansion of the promotional activities which have been a major function of the Institute for more than ten years but which, in the past, have been financed wholly by the voluntary subscriptions, apart from regular Institute dues, of a relatively few mills. Constantly dwindling export markets for both raw and manufactured cotton, the increasing competition of foreign growths and the declining per capita domestic consumption of cotton makes redoubled promotional efforts imperative, it was pointed out.

Details of the promotional campaign will be completed and presented to the Advisory Committee at its next meeting, probably early in May, after the first returns from mills and shippers indicating the volume of cotton pledged to the plan are available for estimates of the funds to be available.

In the meantime, as sketched in broad outline by Mr. Everett, the program will get under way at once in an intensified promotion of National Cotton Week, scheduled by the Institute's Executive Committee to be observed this year during the week May 31st to June 5th. Plans are already completed for an even more extensive co-operation with merchants throughout the country in the preparation and distribution of a wide variety of cotton promotional material, merchandising suggestions and "dealer helps." As a result of the intensified effort it is expected that an even greater number of allied interests, such as laundries, soap and washing machine manufacturers, pattern companies, and others, will participate in this year's event.

Under the new, broadened program, National Cotton Week will climax annually a year around promotion of apparel and household cottons and current promotional activities in behalf of women's cotton fashions, men's wear cottons and household cottons which, in the latter case, for example, have resulted in general acceptance of the 108-inch, full length bed sheet and the increasing popularity of cotton upholstery and decorative fabrics, will be expanded on every front.

As a phase of these activities, increased emphasis is to be placed on consumer education through cotton fashion shows and cotton fabrics exhibits, co-operation with key consumer groups and educators, and extension of the Institute's participation, through staff representatives and speakers, in regional consumer conferences throughout the country.

In industrial fields, the program contemplates renewed efforts in the promotion of cotton bags for packaging cement and other commodities, in the promotion of cotton fabric reinforced bituminous surfaced highways and cotton houses for low-cost industrial housing projects.

Equally important is the plan to undertake a survey of current technical research projects in the hope of coordinating such efforts and encouraging commercial application of the results of such research, an activity which will involve closer co-operation with mill and college and university laboratories.

Many Processing Improvements During 1936

(Continued from Page 12)

monium and phosphonium compounds (for example, octodecyl-pyridinium bromide, triphenyl-benzyl-phosphonium chloride, and triphenyl-3: 4-dichlorobenzyl-phosphonium chloride) can be applied to cotton material to give it an increased affinity for the solubilized vat dyes of the Soledon and Indigosol type. This same advantage holds good for certain vat dyes such as indigo which have not a very good affinity for cotton. Thus cotton first treated with trimethyl-dodecyl-ammonium bromide can be dyed a deep shade of indigo with but one "dip" instead of the several dips which are normally required.

SYNTHETIC RESINS

The application of synthetic resins to dyed cotton fabric has also the effect of making the color faster to washing. Such a treatment is described where urea and thiourea resins are specified. It may also be noted that just as the above mentioned high valency ammonium, sulphonium, and phosphonium compounds have proved useful for assisting dyeing, so it has been discovered that they, particularly the quaternary ammonium compounds, can be used for stripping dyeings produced with azoic and vat dyes which would otherwise be exceedingly difficult to remove from cotton materials.

PRINTING

Printing machinery does not appear to have been drastically improved or modified during the past year. But on the other hand a good deal of attention has been given to improvements in stencil and so-called screen printing. In roller printing processes, a number of products have been discovered which can be added to printing pastes for the purpose of promoting a better fixation of the dyes present. Betaine compounds are especially suitable in printing with vat and sulphur dyes.

Methods for producing clear white resists on water-

soluble derivatives of leuco vat dyes by means of quaternary ammonium halide and inorganic salts have been described. Similar processes, using such substances as dimethylbenzylphenylammonium chloride and dimethylcetylsulphonium methosulphate and dodecyltriethylphosphonium bromide are to be noted. According to two authorities, the addition of a small amount of aminoazobenzene to prussiate aniline black printing pastes can cause a remarkable increase in depth of the resulting black shade, but it is recommended to produce this catalyst by adding sodium nitrite to a solution of aniline hydrochloride under specified conditions if a pleasing tone of black is to be obtained.

One development in printing which is well worth consideration is the claim that chromium-plated printing rollers are a definite success. The thin coating of chromium (not more than 0.002 mm. thick) is extremely hard and protects the roller engraving from damage while it can be easily cleaned off with hydrochloric acid for engraving with a fresh design.—*Textile Recorder of Manchester, Eng.*

New National Dye

National Aniline & Chemical Co. announces National Carbanthrene Khaki 2G Paste, a new addition to their line of anthraquinone vat dyes. It is said to produce khaki shades of excellent fastness to perspiration, washing, boiling soap and boiling soda ash, chlorine, peroxide bleach and rubbing, and very good fastness to sunlight. It reduces readily and is well suited for dyeing in open tubs and machines as well as for pad-jig work.

The manufacturer further states that National Carbanthrene Khaki 2G Paste, when used in combination with National Carbanthrene Olive R Double Paste, National Carbanthrene Brown AR Double Paste or National Carbanthrene Brown AG Double Paste, produces, on cotton and rayon, various shades of brown, khaki and olive drab of excellent all around fastness and is recommended for such materials as uniform cloths, drapery and upholstery fabrics.

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THE KEEVER STARCH CO.

COLUMBUS, OHIO

TEXTILE BULLETIN

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David Clark - - - President and Managing Editor

Junius M. Smith - Vice-President and Business Manager

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Ellis Royal Becomes Associate Editor

B. ELLIS ROYAL has resigned a position with the Callaway Mills, LaGrange, Ga., to succeed the late D. H. Hill, Jr., as associate editor of the *Textile Bulletin* and the *Southern Knitter*.

Mr. Royal, a native of Louisiana, took a four-year textile course at the Alabama Polytechnic Institute, Auburn, Ala., and graduated with the highest honors in his class. He was a major in the College R. O. T. C., a member of the Scabbard and Blade, military fraternity, the Tau Beta Pi, scholastic fraternity, and the Delta Sigma Phi, social fraternity.



B. Ellis Royal

After graduation he entered the employment of the Callaway Mills and spent two years in various departments. During the past year he has been assistant supervisor of overhauling in all mills.

Mr. Royal comes to us with very high recommendations from the Dean of the Textile Department at Auburn and from textile machinery salesmen who attended college with him. He will report for duty next Monday, which will be the first day of our 27th year.

Junius M. Smith Elected Vice-President

At the annual meeting of the stockholders of the Clark Publishing Company, Junius M. Smith, business manager, was also elected as vice-president to succeed the late Walter Clark, an attorney and brother of David Clark, who, while vice-president, was never active with the company.



Junius M. Smith

Mr. Smith has been with the Clark Publishing Company for almost fourteen years as business manager and in charge of the advertising, and has a record of faithful and efficient service. He is especially well known and very highly regarded by our advertisers.

Mr. Smith has been actively identified with civic affairs of his home city and recently completed a year as president of the Rotary Club of Charlotte.

Red Flags

THE production of print cloths, which was, during the last quarter of 1936 around 3,000,000 yards per week, is now estimated at approximately 33,500,000 yards, which is an increase of almost 12 per cent.

During January the operation of cotton spindles in the United States was 137.7 per cent of "capacity,"—100 per cent being figured upon an arbitrary operating schedule and the total spindle hours for January, 1937, which is the most accurate method of determining the extent of the operation of mills, was 8,586,859,000.

In January, 1936, the spindle operations were 111.9 per cent of "capacity" and the spindle hours were 7,713,969,000.

As the number of active cotton spindles in the United States during January, 1937, were 24,364,802 as against 23,323,958 during January, 1936, which was an increase of only 1,000,000 active spindles, it is evident that there have been other causes of the increase from 111.9 per cent of "capacity" to 137.7, and for the increase of spindle hours from 7,713,969,000 to 8,586,859,000.

The increase in spindle hours, plus the 12 per cent increase in the weekly production of print cloths, shows that a drive for production is under

way and that hours are being lengthened, sometimes openly and sometimes secretly.

These increases in spindle hours, per cent of capacity production and in recorded yardage are red flags which, in the light of past history, should be heeded.

We would be unfaithful to our opportunity for service if we did not call attention to the lessons to be drawn from the records of the past.

In April, 1922, when reduced operation had been the rule for many months, there were only 6,642,139,000 spindle hours recorded, but the demand for cotton goods improved and by November, 1922, the spindle hours had been stepped up to 8,728,478,000.

When such a scale was reached, it is difficult to check the advance, and by March, 1923, the month spindle hours were 9,535,670,000 and they remained 8,000,000,000 or above until after June, 1923.

As the result of the excessive overproduction of that period, a non-profitable period followed and by June, 1924, cotton mills had not only been losing money for more than six months, but were operating only 5,344,271,000 spindle hours, and remained on about that basis for four months.

As the result of that curtailment, a demand for cotton goods arose but mills quickly stepped up production to 8,614,547,000 in March, 1925, and as they neutralized the demand unprofitable business resulted and they were back to 6,935,296,000 spindle hours in August of that year.

Again there was a revival of demand and again was there a rush for production, to the end that by March, 1926, the spindle hours were 9,168,726,000, which overproduction again neutralized the demand and operations four months later, or in July, 1926, were 6,750,357,000 spindle hours.

After a few months of low production and low profits, stocks of goods were wiped out and a demand arose, which was another signal for a production drive.

By March, 1927, the month spindle hours were up to 9,638,035,000 and they remained upon a high scale for many months, or until prices became so unprofitable that mills were forced to curtail.

They gradually ceased operation until in July, 1928, monthly spindle hours were down to 6,251,145,000.

That curtailment plus the 1928 general prosperity caused another rush and by January, 1929, the spindle hours were up to 9,226,738,000 and they remained near that figure until the depression hit the country in October, 1929.

As the result of entering the depression with an accumulation of cotton goods, mills were unable to get orders and went through 1930, 1931 and 1932 with monthly spindle hours seldom above 6,500,000,000, and going one month as low as 3,656,499,000.

The improvement during the summer of 1933 was the signal for another step-up and by June of that year the monthly spindle hours were 9,299,240,000, and we have suffered from that excessive operation until the beginning of the present period of profitable operations.

Had we not made such a quick step-up in 1933 and had we held operations to about 7,500,000,000 monthly spindle hours, it is our belief that 1934 and 1935 would have been reasonably profitable years for cotton mills.

The lessons of the past are before us and they teach that every excessive drive for production has been followed by many months of unprofitable business and ultimately by heavy curtailment through which both the mills and the mill employees suffer.

The lessons of the past do not indicate that we can operate 137.7 per cent of "capacity" or 8,536,859,000 spindle hours per month and reasonably hope that the demand for cotton goods will not be satisfied to the extent of causing buyers to reduce the prices which they offer.

A production based upon 8,536,859,000 spindle hours is red flag.

A 137.7 per cent of "capacity" production is another red flag.

An increase of 12 per cent in the weekly production of print cloths is still another red flag.

Only fools drive madly on when red flags flutter in the wind.

Extra dollars made today may prove costly if the production, from which they are derived, is laying the foundation for many unprofitable months in the future.

January Directory Delayed

DUE to the death of Associate Editor D. H. Hill, Jr., and additional work which it threw upon Editor David Clark, who personally supervises the preparation of material for each issue of Clark's Directory of Southern Textile Mills, the January 1st, 1937, edition of the Directory has been delayed and will not be ready for mailing until about March 5th.

The January number is usually ready about February 15th, but we are about two weeks late this time. This is written because of the large number of inquiries from those who have been expecting their Directory orders to be filled.

Hart One Barrel of *Caro-Gant* Replaces Three Barrels **PRODUCTS** of Sizing Compound BASED ON RESEARCH

Composition—Caro-Gant is a pure, one-piece Warp Dressing with all objectionable features eliminated. Guaranteed 99.6% active ingredients; contains no water, metallic chlorides or other salts.

Effectiveness—Caro-Gant in the size-box sets the standard for clean slashers and looms, quality cloth, and high weave-room production.

Economy—Being almost 100% pure, it goes further—one (1) pound of Caro-Gant will replace 2 to 4 pounds of other sizing compounds, at a considerable saving in slashing-costs.

Other Special Features—Produces a smooth, strong and flexible yarn. Retains the viscosity of the starch-paste upon standing over night or even over the week-end; mixes readily and uniformly with starch-paste; and is quickly and completely removed in de-sizing.

Write for a demonstration, which puts you under no obligations.

Reprints on "Notes on Cotton-Warp Sizing" gladly sent gratis upon request.

HART PRODUCTS CORP.

1440 BROADWAY NEW YORK, N. Y.

Demonstrators:

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384 Riverway	Box 274	Box 534
Boston, Mass.	Spartanburg, S. C.	Fairfax, Ala.

Mill News Items

LAURENS, S. C.—Plans for remodeling a building for the Palmetto Hosiery Company have been completed and the contract awarded to an Anderson, S. C., firm, it is learned here.

TROY, N. C.—The old Capelsie Cotton Mills, which have been idle for approximately four years, have been purchased by Leon Capel, of this place, and will start operations in about a month. The mills will employ about 100.

ANDERSON, S. C.—The Gossett Mills here are having additional space constructed for the executive office at a cost of approximately \$14,000. The enlargement will give the clerical department more space and will provide a room for directors.

EUFULA, ALA.—Work is nearing completion on the new dyehouse that has been added to Cowikee Mills. Sixty-five additional looms are ready to be installed in the basement, which was excavated for this purpose. This will give Cowikee Mills here a total of 461 looms.

LENOIR, N. C.—Construction of a building which will house a large hosiery mill under the operation of O. P. Lutz, local furniture dealer, has begun here. The mill is expected to employ 20 workers on two shifts. Eighteen machines will be installed for the manufacture of infants' socks.

KINGS MOUNTAIN, N. C.—The Phenix Mill recently purchased the Dilling Mill, which became known as Phenix Mill No. 2.

The original Phenix Mill continues to do its own spinning and to weave print cloths. In the No. 2 unit, yarns for sale in the open market are spun.

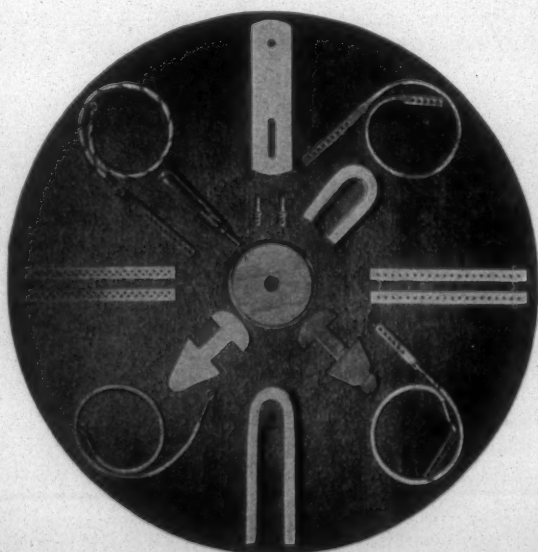
COLUMBIA, MISS.—Columbine Knitting Mill has begun construction of an addition to its plant which, it is said, will double its present capacity. The plant now employs 85 men and women and its payroll is more than \$1,100 weekly and 2,000 dozen pairs of men's socks are turned out weekly. J. T. Hunnicutt is superintendent.

LYNCHBURG, VA.—Six full-fashioned machines have been ordered to supplement the 24 already in operation at the Lynchburg Hosiery Mills' full-fashioned unit here, President Clarence Burton has made known.

The additional machines will mean the employment of 25 more workers, bringing the mills' total force to about 825.

WINSTON-SALEM, N. C.—Thomas O. Moore, lawyer practicing in partnership with his father, L. I. Moore, at Newton, N. C., has accepted the position of general counsel for the P. H. Hanes Knitting Company and West End Development Company of Winston-Salem. Mr. Moore will assume his new duties April 1st.

Rice Dobby Chain Co.



Millbury, Massachusetts

Mill News Items

GRIFFIN, GA.—Georgia-Kincaid Mills No. 2, of Griffin, are installing a new heating system made by Buffalo Forge Company.

ANDERSON, S. C.—Southeastern Cottons, Inc., of New York, has been appointed sole selling agents for the Grendel Mills, Inc., of Greenwood, S. C., and the Anderson Cotton Mills, Inc., of Anderson.

RADFORD, VA.—Radford Knitting Mills, Inc., with maximum capitalization of \$100,000, has been chartered by the Virginia Corporation Commission to manufacture and sell hosiery and knit goods. Burns A. Robie, of Philadelphia, is president of the new corporation.

GREENVILLE, S. C.—Dividends totalling \$49,000 on preferred stock will be paid by Brandon Corporation, according to C. E. Hatch, president. This dividend completes payment of back dividends on preferred stock up to date.

GRIFFIN, GA.—The \$200,000 addition to the Georgia-Kincaid Mills No. 2, Griffin, Ga., is progressing nicely. It will be of brick and steel construction, 124x101, two stories. The Newton Coal & Lumber Co., local contractors, are the builders.

KINGS MOUNTAIN, N. C.—Operation of the Phenix Mill will be at capacity, it was learned here from Earl A. Hamrick, secretary-treasurer. The Phenix was recently purchased at public sale by the Dilling Mill and Mr. Hamrick says that all rayon weaving equipment is being disposed of, and that mill will do spinning only.

BURLINGTON, N. C.—Officials of Sellers Hosiery Mills have announced contract has been let to Bryan & Bailiff for the construction of additional buildings, the cost of which, with machinery, would be approximately \$150,000.

President D. E. Sellers said 12 modern knitting machines would be placed in the new plant.

SODDY, TENN.—Announcement is made here that the Daisy unit of the Richmond Hosiery Mills has been leased to the Kingsboro Silks Mills, Inc., of Gloversville, N. Y. According to the announcement, which was made by officials of the local mills, new machinery in this unit will soon be put back into operation after the unit had been idle for two years and former equipment moved to Rossville.

It is stated that at the outset the Kingsboro Silk Mills, Inc., will install one dozen machines for knitting underwear cloth, and for the present the finishing operations will be done at the other units of the company.

The Daisy unit will be developed into a complete producing unit later, it is stated. Then probably 200 will be put on the payroll. When the new industry begins operations in the Daisy unit it will probably employ about 15 to 20 operatives.

(Additional Mill News on Page 9)

IN TEXTILE MILLS



**Lost
MOTION means
Lost
DOLLARS-**

Slow production is one of the results of Ruts and Holes in your floors.

You can have, right in your own plant, a trial demonstration of

STONHARD RESURFACER

Profit by the advantages of a custom built floor, suited to your individual needs. Quick to install—Economical—Dependable. Ask for details.

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INDUSTRIAL BUILDING MAINTENANCE MATERIALS
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Like the well-known duck's back, your hosiery or piece goods repel water after a Laurel Splashproof treatment—the new splashproof, waterproof and non-coating finish which adds the extra life and service your trade demands.

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1733 Inverness Ave., N.E. Atlanta, Ga. Tel.—Vernon 2330

173 W. Franklin Ave. Gastonia, N. C. Tel.—247

Mill News Items

BURLINGTON, N. C.—This city's first major industrial project for 1937 is a full-fashioned hosiery knitting mill to cost in buildings and machinery in excess of \$150,000.

Contract has been let by Sellars Hosiery Mills, now a corporation, whereas until recently it was a partnership, to Bryan & Bailiff for a building, 96 by 108 feet, adjoining the premises of the Sellars Hosiery Mills.

D. E. Sellers, president of the corporation, said that an order has been placed for 12 modern knitting machines.

GOLDVILLE, S. C.—Ground was broken Monday morning by the Joanna Cotton Mills at Goldville for an extensive enlargement of the mill and the installation of 450 new looms.

Contract for the addition has been awarded to the Fiske-Carter Construction Company of Greenwood. Twenty-seven new houses in the village are to be erected also, which, with the enlargement of the plant and installation of the machinery, will represent an expenditure of \$350,000, the management stated.

W. H. Regnery and associates of Chicago recently bought the controlling interest of the Hartshorns of New York in the Goldville property. Soon thereafter, the local manager, W. A. Moorhead, announced the building and enlargement program which is expected to be completed by the first of June.

ANDERSON, S. C.—The reorganization of the Anderson Cotton Mills, controlling interest in which changed hands some time ago, has been completed, a number of changes being made in the personnel.

William McKinley, of New York, succeeds W. C. Langley, of New York, as chairman of the board of the textile corporation. J. P. Abney, of Greenwood, succeeds William McKinley as president. L. E. Foster, of Greenwood, succeeds W. H. Seibert, of New York, as vice-president. J. E. Burnside, of Greenwood, succeeds Geo. E. Leonard, of New York, as secretary.

No assistant secretary has been elected by officials as yet.

The new directors of the Anderson Mills include J. P. Abney, Greenwood; William McKinley, New York; W. C. Langley, New York; Geo. E. Leonard, New York; Frank Watkins, Anderson; J. R. Abney, Greenwood; L. E. Foster and J. E. Burnside, also of Greenwood.

It was announced some time ago that the new owners of the large mill, which is located inside the corporate limits of the city, plan the expenditure of between \$500,000 and \$1,000,000 on the plant immediately.

The expenditure will involve the renovation of the plant and the installation of much new machinery to replace much of the machinery which has become obsolete.

No expansion of the plant is contemplated at this time, it is understood, but the installation of new machinery is calculated to materially increase the mills' present capacity.

(Additional Mill News on Pages 9, 11, 20 and 21)

Consumption of Cotton

Washington, Feb. 15.—Cotton consumed during January was reported by the Census Bureau today to have totalled 678,064 bales of lint and 63,438 of linters, compared with 692,921 and 61,936 for December last, and 590,484 and 55,646 for January a year ago.

Cotton on hand January 31st was reported held as follows:

Held in consuming establishments, 2,066,302 bales of lint and 270,776 of linters, compared with 2,001,378 and 239,176 on December 31st last, and 1,436,418 and 203,970 on January 31st a year ago.

In public storage and at compresses, 6,779,351 bales of lint and 73,038 of linters, compared with 7,788,326 and 67,499 on December 31st last, and 7,844,457 and 65,048 on January 31st a year ago.

Imports for January totalled 15,007 compared with 15,909 in December last, and 13,457 in January last year.

Exports during January totalled 538,280 bales of lint and 26,944 of linters, compared with 593,860 and 19,668 in December last, and 542,776 and 17,740 in January a year ago.

Cotton spindles active during January numbered 24,364,802 compared with 24,090,204 in December last, and 23,323,380 in January last year.

Cotton consumed during January in cotton-growing States totalled 564,874 bales, compared with 576,736 in December last, and 497,054 in January last year.

Dies in Elevator Shaft

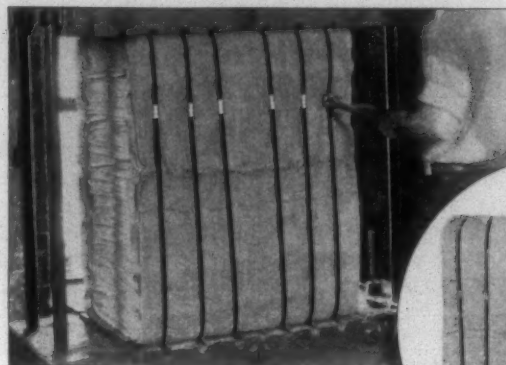
Marion, N. C.—Daniel Frady, 25, an employee of the Marion Manufacturing Company, was killed February 10th when he was caught in the shaft of the elevator he was operating from the second story.

Mill School Burned

The Georgia-Kincaid Mills School Building at No. 1 Mill was partially destroyed by fire on February 15th. No one was injured, as the fire was discovered during the recess hour.

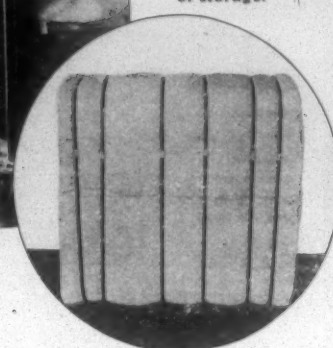
Patent Can for Loom Quills

A patent for an improved loom quill can has been issued to J. C. Paddock, of the J. C. Paddock Company, sheet metal specialists of Spartanburg, S. C. The inventor claims that it retains not less than 95 per cent of the quills and filling which miss ordinary can and fall upon the floor.



At left. Showing bale compressed, being sealed with Model 8-H Sealer and No. 50 Signode Seals.

Below. The finished bale, after being released from the press, with Signode Bale Ties tightly holding the bale safe for shipment or storage.



HOW LEADING TEXTILE MILLS CUT BALING COSTS

Because they make a stronger bale, speed up baling and reduce the cost of baling, Signode Dependon Bale Ties are used by leading textile mills. Safe edges of the strapping protect the

hands of the operator. Its clean, rust-proof, smooth finish makes it possible to handle the contents of the bale without soiling. Cartons, boxes, etc., can also be protected during transit with Signode Nail-less Steel Strapping which is applied with easy, quick-acting tools.



Send for the free folder, "Dependon Bale Ties and Tensional Box Strapping for Textile Shipments." Use the coupon below.

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STEEL STRAPPING COMPANY

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We have drilled wells and installed water systems for some of the South's best known textile plants and municipalities. Names on request.
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Sanford, N. C.

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Within recent weeks, Textile Bulletin has received a number of requests from mills for assistance in locating capable superintendents and overseers to fill vacancies.

We suggest therefore that operating executives seeking employment, file with us a complete but concise record of their experience and references.

Be sure to give specific information and the DEFINITE position for which you wish to apply.

This information should be typewritten if possible.

No Charge for this Service

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Employment Department

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Charlotte, N. C.

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Incorporated

CHARLOTTE, N. C.

Solution of Color Problems in the Textile Industry

(Continued from Page 7)

absorbs everywhere in the visible region instead of merely in a narrow region centered around 575 millimicrons. As a result of these faulty absorption characteristics, the brightness of the cloth is reduced to approximately the same value as that of the unbleached material.

It is not within the scope of this paper to speculate concerning the possibility of obtaining a dyestuff with the ideal absorption characteristics. It may be mentioned, however, that the odds in favor of finding it are naturally improved by the knowledge of the characteristics that are desired. Moreover, if the desired dyestuff were synthesized by accident, it is probable that its usefulness would not be recognized. A chemist who relies solely on visual judgments of color would find that this dye is an exceedingly pale blue. In fact, the hue of a white cotton swatch dyed to the maximum useful concentration would not be as intense as the yellow hue of bleached (but unblued) cotton. Any chemist who follows precedent would immediately discard such a dyestuff because of its almost complete lack of tinctorial strength. Unless he had a knowledge of spectrophotometry and colorimetry, he would not realize that tinctorial strength is in this instance an inverse measure of the efficiency of the dyestuff.

This last category of applications of spectrophotometry is difficult to classify because it involves a new type of attack on color problems. This attack resembles the approach to many problems that is provided in its field by the science of thermodynamics. For example, before any experimental work is done on a new refrigeration cycle for an air conditioning system, the theoretical efficiency of the cycle is always calculated. This establishes the ultimate goal which practice may approach but can never surpass. In this way, experiments that are foredoomed to failure are allowed to remain unperformed, and practice is insured against retrogression. Theoretical reasoning in connection with color problems is equally valuable but has been seldom employed because the concepts of spectrophotometry and colorimetry, which provide the foundation, have received only sporadic attention.

Murchison Explains American-Japanese Trade Pact

(Continued from Page 3)

ments together with the names of the importers and exporters involved, and the ports of trans-shipment; 2, by undertaking to secure the co-operation of the Association of Cotton Textile Merchants of New York, as well as similar associations in other cities, in preventing their members from purchasing textile goods shipments originating in Japan which are not imported directly from Japan.

7. For the purposes of the calculations on piece goods, any quantities which have been imported into the United States and then re-exported shall be excluded.

B. Joint Committee.

1. The two industries will undertake to establish as soon as practicable and not later than April 1, 1937, a joint committee consisting of an equal number of repre-

sentatives of each industry. The purposes of this joint committee shall be to deal with whatever administrative difficulties may arise in connection with existing quota arrangements and also to act as a negotiating committee in the establishment of subsequent arrangements between the two industries relative to quantity limitations or other means of control.

C. Miscellaneous Specialties and Other Products for Consumption Made of Cotton.

1. The Japanese accept the principle of quota limitation as regards tablecloths, bedspreads, handkerchiefs, cotton gloves, underwear and other specialty items manufactured from cotton cloth, and yarns or thread.

2. They will undertake to institute negotiations in line with the above principle through the joint committee as above provided for or through the agencies of the two governments, whichever may be agreed upon as more practicable.

3. It is agreed that after the formation of the joint committee every effort consistent with good faith and with a mutual desire for a solution of the trade problems of the two industries will be made to effect appropriate quota arrangements relative to the above classifications prior to June 30, 1937, or as soon thereafter as is practicable.

D. The representatives of the American industry regard the application of the above principles and procedures to the textile trade of the two countries as rendering unnecessary any action on the part of the United States Government looking toward further restriction of Japanese cotton-textile imports. They also consider that the application of these measures will serve to lay the ground work for a reciprocal trade treaty between the governments of the two countries and thus make possible tariff adjustments which will be of mutual advantage to the two countries.

E. This arrangement shall be regarded as being in immediate effect, but subject to repudiation by the Japanese industry by cablegram from Japan on or before February 15, 1937.

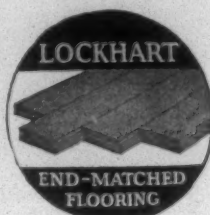
Well Locations in Carolina Slate Belt of the Piedmont Plateau

(Continued from Page 10)

study should be made before drilling wells for a large supply of water. Then, too, wells should not be drilled to extreme depths, for it has been noted that the yield increases very slowly after 300 or 400 feet has been reached. On the other hand the yield is greatly increased with the diameter of the well and as the cost of moving, and setting up the drilling rig is about the same for a small well as a large one the total cost per gallon of water produced in the larger diameter well of reasonable depth is considerably less than the small deep wells. Then, too, as a rule the pumping level is higher so that the lift is not so great on the large well, making the pumping cost less. In one instance the pumping cost was lowered from 12 to 3¼ cents per thousand gallons.

Before locating a well to obtain a large supply of ground water, a geologist or engineer familiar with the geological formations of the section should be consulted in regard to the location.

Economy FLOORS for COMPANY HOUSES



LAY WITHOUT
WASTE

GOOD TO THE
LAST INCH!

Just Specify

LOCKHART BRAND IN COTTAGE and BUNGALOW GRADES

MANUFACTURED FROM CHOICE
ALABAMA YELLOW PINE

ASK YOUR LUMBER DEALER OR

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RAW MATERIALS

A cotton mill with the first choice of raw material makes the best yarn. A bobbin shop with the first choice of birch, beech and maple makes the best bobbins.

Located in the very center of the bobbin stock section of New England we do have the first choice of raw materials.

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Rayon Tires

Cincinnati, Ohio.—Joining other forces in an effort to increase highway safety, science experimented with rayon as a substitute for cotton in the "cord" of automobile tires.

Dr. Charles M. A. Stine, chemist and vice-president of the E. I. du Pont de Nemours Company, predicted the new cord would prolong a tire's life considerably beyond the 25,000 to 30,000 miles he said was possible out of a "good" product.

Dr. Stine addressed a business and professional men's group at the University of Cincinnati.

Cotton, he said, "loses in tensile strength when a tire becomes heated and this may lead to the failure of the tire. Now it is found that rayon, of which cotton is the base, resists that type of failure due to heat."

A Hat Band Factory

Allensville, Ky.—This month a small textile plant for the manufacture of woven hat bands and clothing labels is scheduled to begin operations, headed by William F. Pritz, formerly of Paterson, N. J. Recently a brick building was secured here and a carload of machinery was shipped from Paterson and has been installed in this structure. When the plant has reached full operations 25 to 30 young men and women will constitute the number of the payroll. This is said to be the first plant for the manufacture of hat bands and clothing labels to be located in the South. Mr. Pritz, it is stated, has secured excellent contracts from manufacturers in Paterson.

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Gilmer Co., L. H.	—	Victor Ring Traveler Co.	22
Goodyear Tire & Rubber Co.	—	Viscose Co.	—
Grasselli Chemical Co., The	—	Vogel, Joseph A. Co.	35
Graton & Knight Co.	—	—W—	
Greenville Belting Co.	—	Wallerstein Co., Inc.	—
Gulf Refining Co.	—	Wellington, Sears Co.	—
—H—		Whitin Machine Works	—
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H & B American Machine Co.	—	Williams, I. B. & Sons	—
Hercules Powder Co.	—	Windle & Co., J. H.	26
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Holbrook Rawhide Co.	—	Wytheville Woolen Mills	—
Houghton, E. F. & Co.	—		
Houghton Wool Co.	28		
Howard Bros. Mfg. Co.	—		
—J—			
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Jacobs, E. H. Mfg. Co., Inc.	—		

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- 6—H & B Wet Tape Drive Twisters, 3" ga., 2" R., 240 sp.
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- 20—Bahnsen Humidifiers, 220-volt motors.
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- 30—Universal No. 50 Tube or Cone Winders.
- 12—Universal No. 90 Cop Winders.
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Classified Department

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Old established corporation requires a high grades salesman to sell textile lubricating specialties to Southern textile mills. Must have proven, successful record selling similar products or equipment lines to mills. Apply by letter giving complete outline of experience, references and recent snapshot. Replies will be held strictly confidential.

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One Model 30 Foster Skein to Cone or Spool Winder, 100 reels, adjustable, individual motor drive, complete with Motor, Switch, etc. In perfect condition and can be bought at a bargain price.

Address "Bargain,"
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POSITION WANTED—Experienced yarn mill man; 15 years under best mill men in country; settled and willing to show ability. Best of references. Address "M. G.," care Textile Bulletin.

MARRIED MAN, plenty experience shipping and purchasing, also some cost accounting, wishes permanent connection. Best references. Address "A. B. H.," care Textile Bulletin.

WANTED—A Raw Stock Dryer capable of drying about 400 lbs. per hour. State age and conditions. Address "Dryer," care Textile Bulletin.

WANTED—All spinners of cotton, wool, or rayon having laps and middle steel rolls, to consult the writer of ad. M. L. Balick, Box 57, Ranlo Station, Gastonia, N. C.

WANTED—Experienced dyer who knows stock, package and beam dyeing. Give experience, age and references in reply. Address "R. C.," care Textile Bulletin.

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Large quantity of 3½ x 7 H & B Fine Frame Flyers. Good as new.

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Berryton, Ga.

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An overseer for weaving white goods, both wide and narrow looms, for mill in South. Prefer man between ages thirty and thirty-five. Please give references in first letter.

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Care Textile Bulletin.

FOR SALE

1 Mertz Vacuum Type Steam Box for setting twist, complete with compressor, condenser, all piping, valves and trucks for operation. Location, North Carolina. Originally purchased 1933.

Address "Steam Box,"
Care Textile Bulletin.

WANTED

4 to 6 Draper Loom Overhaulers. Write your experience and references, also where you have been employed for last two years.

Address "A-1,"
Care Textile Bulletin.

\$185,154,828 Invested in S. C. Textile Mills

Columbia, S. C.—According to the annual report of John W. Nates, State Commissioner of Labor, textile plants of South Carolina last year represented a capital investment of \$185,154,828.

N. C. Lets Contracts for State Institution Needs

Raleigh, N. C.—The Board of Award, North Carolina Division of Purchase and Contract, makes known the letting of a number of contracts for supplies needed by State institutions. The successful bidders included:

Unbleached sheeting, Marshall Field & Co., Chicago; mattress ticking, Carolina Textile Corporation, Durham, N. C.; imitation leather, Jacob Griffel, New York.

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Write or Phone Our Southern Representative

JAMES E. TAYLOR, Phone 3-3692, Charlotte, N. C.

Cotton Goods Markets

New York.—During the past week sales of cotton gray cloths were below production, and some unsteadiness was indicated on standard constructions.

Second hand sales were much smaller and traders reported the bulk of goods which had been available for resale from second hand sources had been liquidated.

There were some mills which were sitting back and taking little part in the market activity. They were unwilling to push out goods at prices which would encourage concessions, and they had so few quick goods that they had nothing to worry about. Other mills were attempting to keep completely liquid and that was considered a short-sighted policy by many merchants.

Trading in sheetings was moderately good and some prices advanced as buyers found it increasingly difficult to get wanted deliveries. Twills and drills sold in the gray in fairly large quantities and prices showed new strength. Fine yarn gray goods sales were small with prices generally steady.

Coarse yarn goods have maintained a steadier position through the early stages of this digestive period than have print cloth yarn goods. Proportionately, many of the sheetings are even more solidly sold ahead than print cloths.

Bag manufacturers, according to reliable advices, experienced a fairly satisfactory demand during the week, particularly from the fertilizer and feed trades. Thus far, their fabric commitments are said to more or less cover their current bag requirements. Demand for cotton flour bags has been somewhat quiet.

The finished cotton cloth markets were fairly active. A sudden demand for large print designs taxed the capacity of finished plants to get out the new patterns in time for the spring season.

Dress manufacturers handling various price ranges were in the market for substantial quantities for early deliveries. Colored yarn fabrics were in steady demand and chambray mills prepared for a new price advance, which probably will be announced within the next few weeks.

Print cloths, 27-in., 64x60s	55 $\frac{1}{8}$
Print cloths, 28-in., 64x60s	53 $\frac{1}{4}$
Gray Goods, 38- $\frac{1}{2}$ in., 64x60	75 $\frac{1}{8}$
Gray goods, 39-in., 80x80s	10 $\frac{1}{4}$
Gray goods, 39-in., 80x80s	9 $\frac{3}{4}$
Tickings, 8-ounce	17 $\frac{1}{2}$
Denims	15 $\frac{1}{2}$
Brown sheetings, standard	11
Brown sheetings, 4-yard, 56x60	8 $\frac{3}{4}$
Brown sheetings, 3-yard	10 $\frac{1}{8}$
Dress gingham	16
Staple gingham	12

J. P. STEVENS & CO. Inc.

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40-46 Leonard St., New York

Cotton Yarn Markets

Philadelphia, Pa.—Trading in carded cotton yarns has remained upon a very firm basis and those who checked quotations in their regular sources of supply could find no indication of lower trading levels. Where it was sought to cover at under 35c on 20s two-ply and 40c on 30s two-ply carded tubes, skeins or warps, buyers could find no indications of weakness. Not only did mills afford the impression that they continued heavily sold ahead, but they made it doubly definite by reporting lack of available production for sale earlier than June.

Ordinary carded yarns are certainly not in excessive supply in the counts and for the deliveries sought by most customers, and it is expected by many that quotations will go higher.

Reports reaching the trade indicate that carded yarn spinners have, for the present at least, the best organization in their history and that they are being kept exceedingly well informed relative to the prices being paid.

It is largely because of spinners' information upon prices being paid from day to day that buyers find it very difficult to secure concessions. The old game of obtaining reduction through the agency of rumors of lower prices at which yarns are offered by other mills, has not recently been very effective.

Buying of single combed peeler yarns was reported as being the most active since the middle of December and a slight further increase in shipments indicates that yarn mills are making strenuous efforts to conform their production to customers' requisitions. In ply combed peeler yarns, new buying is only a little better than half as large as the average weekly production since early last month. Suppliers predict that customers will soon be forced to begin placing additional contracts for ply combed yarn.

Southern Single Skeins

8s	29
10s	29 1/4
12s	30
14s	31
20s	33
26s	35 1/4
30s	37 1/2
36s	40 1/2
40s	44

Southern Single Warps

10s	31 1/4
12s	31
14s	32
16s	32 1/2
20s	34
26s	36
30s	38
40s	45

Southern Two-Ply Chain Warps

8s	31
10s	32
12s	32 1/2
16s	33
20s	35
24s	37
26s	38 1/4
30s	40
36s	43
40s	47 1/2

Southern Two-Ply Skeins

8s	30
10s	30 1/4
12s	31
14s	32 1/4
16s	33 1/4
20s	34 1/4
24s	35 1/4
26s	36 1/4
30s	39
40s	45 1/4

Two-Ply Plush Grade

12s	32 1/4
16s	34 1/4
20s	36
30s	41 1/2

Duck Yarns, 3, 4 and 5-Ply

8s	29
10s	30
12s	30 1/2
14s	32
16s	34
20s	35

Carpet Yarns

Tinged carpet, 8s, 3 and 4-ply	28
Colored stripe, 8s, 3 and 4-ply	28 1/2
White carpets, 8s, 3 and 4-ply	30

Part Waste Insulating Yarns

8s, 1-ply	26
8s, 2, 3 and 4-ply	27
10s, 2, 3 and 4-ply	28
12s, 2-ply	28
16s, 2-ply	30
30s, 2-ply	37

Southern Frame Cones

8s	29
10s	29 1/4
12s	30
14s	30 1/4
16s	31
20s	32
22s	32 1/4
24s	34 1/4
26s	35 1/4
28s	36 1/4
30s	37 1/4

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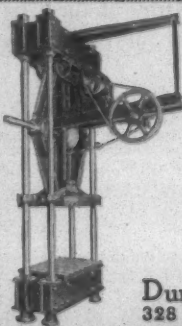
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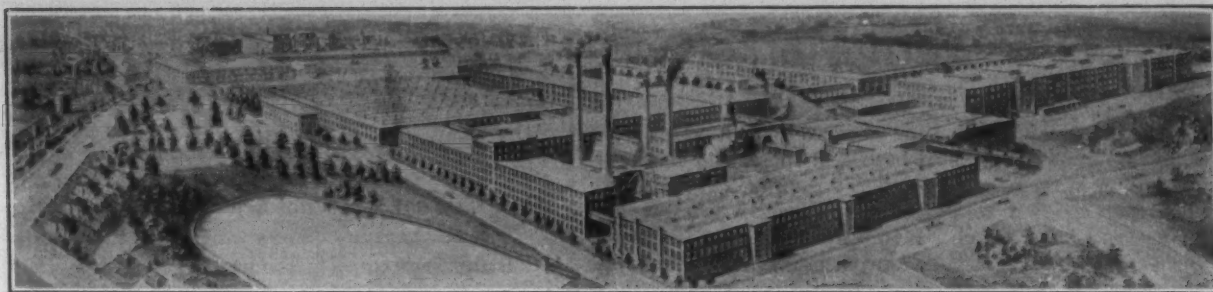
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ASHEVILLE, N. C.



Visiting The Mills

By Mrs. Ethel Thomas Dabbs (Aunt Becky)

Rockingham, N. C.—Pee Dee Mfg. Co.

H. B. Miller, for more than a year superintendent of Pee Dee Mills, No. 1 and No. 2, is too modest to claim credit for the many improvements made in these plants; but the operatives unhesitatingly compliment him in no uncertain terms. These mills are on colored goods—coverts, cheviots, hickory shirting, etc., which calls for expert handling from opening room to finishing and packing, and all agree that Mr. Miller "has what it takes."

On the other hand, Mr. Miller says he has never known nor been associated with finer or more loyal people than the operatives of these two mills, many of them having been here from the first to third and maybe in some instances to the fourth generation.

W. H. Entwistle, affectionately called "Mr. Harry" by hundreds of those who know and love him, is president; H. D. Steadman is secretary and treasurer. He is always courteous and ready to oblige "Aunt Becky," when she makes her annual call.

PEE DEE MILL NO. 1—OVERSEERS

L. G. Moss is carder and spinner; B. G. Meacham, weaver; Pearl B. Porter, cloth room; J. H. Cochran, finisher; J. D. Patterson, second hand in spinning; L. T. Dawson, second hand in weaving; Stancil Boggan, Sam Hogan, M. W. Odom, C. L. Hammond and Rob Davis are among the section men and card grinders.

PEE DEE NO. 2—OVERSEERS AND OTHERS

H. C. Jenkins, carder and spinner; Grady Welch and A. A. Jenkins, second hands; Lee Hogan and R. M. Harris, card grinders; J. D. Jenkins and H. T. Treadwell, section men; J. C. Stubbs (see special write-up and his picture) is the overseer weaving; Dillon Post, second hand; L. F. Heavner, master mechanic; Earl Spivey on slasher; I. B. Kelley, J. J. Thompson and P. E. Murphy, loom fixers; J. C. Jenkins, shipping clerk; L. L. Thower, Jim Covington, Ruby O'Quinn, Ada Dowd and Mrs. Mary Clark all read The Bulletin.

At Pee Dee Mills is one of the most remarkable men in the textile industry—a man who has always gotten joy out of loyal service; a man who has never found work monotonous, nor longed for other territory, or tasks to conquer.

J. C. Stubbs, overseer of weaving in Pee Dee Mill No. 2, has been with this mill company 59 years, April 8, 1937. He has worked continuously every day the mills were running, losing only three days, and one day was when he got married!



J. C. Stubbs

He will be 78 years old in July, is alert, active, and more interested in his job than many younger men are. In fact, the writer has never seen a man so passionately in love with his job, and that is the secret of his long and happy life.

He has never been seriously sick; has "imbibed" mountain dew since a youngster, any time he wanted it, but has never let it master him; says he can eat anything from mild onions to raw turnips and "poke sallit" and there's "not a darned thing the matter" with him.

He says the Entwistles are the finest family God ever created, and if he had been with any other company, he would no doubt have been "thrown in the creek or cremated" long ago. He will never "resign" and should he lose his job it would in all probability break his heart.

Mr. Stubbs has been twice married; two children blessed his first union, a son and a daughter. The son died some years ago, leaving a wife and two children. He is devoted to his family and says his grandchildren and all are as good to him as if he were a baby.

Mr. Stubbs has always been thrifty, and has accumulated quite a bit of valuable property in and around Rockingham.

He took one trip "up North" once, but didn't enjoy it

for thinking of tasks at the mill that needed his supervision.

Ware Shoals, S. C.—Ware Shoals Mfg. Co.

Automobiles—hundreds and hundreds of them—are parked on every available spot for blocks, in every direction; a stranger could easily be forgiven for jumping to the conclusion that this was a huge automobile factory belching out finished machines of every style and make.

The writer finally found a spot near the river that had just been vacated and there the trusty Ford V-8 was left in company with Cadillacs, Oldsmobiles, Chevrolets, Studebakers and other high-brows. W. A. L. Sibley, vice-president and general manager, says he is tired of having to go to Greenville to park and then walk back—so he has quit trying to use his car as a means of transportation to his office.

A BIG BUSY OFFICE

There are 65 desks in the office, some of them double—and 75 or more employee, all as busy as bees. There is beautiful system here, too, and an atmosphere of friendliness and good will that is refreshing. Mr. Sibley is a very young man, but fills his responsible position with dignity and grace. He never seems hurried, or worried, and is never too busy to be courteous. More, he is a Christian, and not ashamed of it; he firmly believes that God will help those who try to help themselves, and says nothing is ever gained financially, but much is lost spiritually, by Sunday work.

PERMANENCY THE WATCH-WORD

Everything in Ware Shoals is put there to stay. Only the very best has been thought good enough. Most of the 600 houses have asbestos roofs. Painting and repairing goes on all the time, and a painting schedule is worked out for five years. Then they start all over again, making sure that property is thoroughly protected from the ravages of time.

Seven thousand and five hundred new spindles were recently installed, and another 7,500 are now being set up.

Nine hundred operatives, mostly girls and women, work in the fabricating departments, where the weekly output is 2,000 dozen shirts, 50,000 dozen handkerchiefs, 35,000 dozen diapers, 14,000 dozen pillow cases and 350 dozen sheets.

There are 3,000 operatives in all, and as fine a looking crowd as one can find in any industry.

OVERSEERS

D. M. Davis, carder, was initiated into textile mysteries at Henrietta Mills, near Forest City, N. C., in 1887, and is said to be one of the best overseers of carding to be found, and a mighty good man to work for.

— . Callas is overseer spinning. He and W. H. Callas, genial overseer of the cloth room, are brothers. M. C. Chalmers is overseer weaving.

E. W. Craft, second hand in carding; Roy Greer, sec-

ond hand in spinning, and B. V. White, second hand in weaving, are among our friends and readers.

Truman Owens and C. A. South, ambitious young men in the card room, who are working up, have joined the Textile Bulletin family.

Ray Stetenburg, superintendent, and Arthur L. Bryant, assistant superintendent, are likeable and hustling young men.

THE COMPANY STORE

There has never been a more complete department store than this, where anything from a fish hook to an automobile can be bought—and of the best, at reasonable prices. There's a complete drug store in this building, too, and a real nice lunch room.

The very best of schools; a splendidly equipped Y. M. C. A., with educational and recreational advantages, swimming pool, etc. Churches of different denominations. A dairy farm with 150 fine thoroughbred Guernseys, making sure that pure rich milk is available to all who need or want it.

STADIUM AND ATHLETIC FIELD

The PWA has recently completed a concrete stadium at Reigel Field, with a seating capacity of 1,200. These playgrounds are large, level and in every way ideal, and are just back of the schoolhouse.

It does seem that everything that heart can wish for is provided for the people of Ware Shoals. To live there and work there is an honor and a blessing. President Ben D. Reigel, of New York, deserves the gratitude of the entire South as well as that of the 3,000 operatives for the development of this modern and model textile town.

Laurens, S. C.—Laurens Cotton Mill

This mill has approximately 49,000 spindles and 1,234 looms, making fancy shirtings and dress goods. N. B. Dial is president and M. L. Smith, treasurer. J. M. Moore, who has for many years been superintendent, has resigned, and D. K. Dana, an enterprising and progressive young man from Judson Mill, is now superintendent.

Woodruff, S. C.—Brandon Corp., Woodruff Plant

This is one of the nicest plants in the Brandon group. The grounds are laid out artistically, and the evergreen shrubbery, flowering plants and soft green grass make a lovely picture. The mill runs 8-hour shifts, on good running work. The product is print cloth.

C. E. Hatch, of Greenville, is president and treasurer; J. E. Sirrine, vice-president; W. B. Perrin, general manager; H. B. Kilgore, plant manager; C. P. Dill, superintendent.

Overseers are C. M. Padgett, carder; R. B. Hunt, spinner; J. L. Loftis, weaver; W. H. Fanning, cloth room; J. K. Taylor, master mechanic; Smith Thomas, outside overseer.

(Continued next week)

Southern Sources of Supply

For Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in *TEXTILE BULLETIN*. We realize that operating executives are frequently in urgent need of information service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

ABBOTT MACHINE CO., Wilton, N. H. Sou. Agt., L. S. Ligon, Greenville, S. C.

AKRON BELTING CO., Akron, O. Sou. Branches, 209 Johnston Bldg., Charlotte, N. C.; 905 Woodside Bldg., Greenville, S. C.; 20 Adams Ave., Memphis, Tenn.

ALLIS-CHALMERS MFG. CO., Milwaukee, Wis. Sou. Sales Offices: Atlanta, Ga., Healey Bldg., Berrien Moore, Mgr.; Baltimore, Md., Lexington Bldg., A. T. Jacobson, Mgr.; Birmingham, Ala., Webb Crawford Bldg., John J. Greagan, Mgr.; Charlotte, N. C., Johnston Bldg., William Parker, Mgr.; Chattanooga, Tenn., Tennessee Electric Bank Bldg., D. S. Kerr, Mgr.; Cincinnati, O., First National Bank Bldg., W. G. May, Mgr.; Dallas, Tex., Santa Fe Bldg., E. W. Burbank, Mgr.; Houston, Tex., Shell Bldg., K. F. Ribble, Mgr.; Richmond, Va., Electric Bldg., C. L. Crosby, Mgr.; St. Louis, Mo., Railway Exchange Bldg., C. L. Orth, Mgr.; San Antonio, Tex., Frost National Bank Bldg., Earl R. Hurry, Mgr.; Tampa, Fla., 415 Hampton St., H. C. Flanagan, Mgr.; Tulsa, Okla., 18 North Guthrie St., D. M. McCargar, Mgr.; Washington, D. C., Southern Bldg., H. C. Hood, Mgr.

AMERICAN BLOWER CORP., Detroit, Mich. Sou. Offices: Court Square Bldg., Baltimore, Md.; 1211 Commercial Bank Bldg., Charlotte, N. C.; Rooms 716-19, 101 Marietta St. Bldg., Atlanta, Ga.; 846 Baronne St., New Orleans, La.; 1005-6 American Bldg., Cincinnati, Ohio; 619 Mercantile Bldg., Dallas, Tex.; 201 Petroleum Bldg., 1314 Texas Ave., Houston, Tex.; 310 Mutual Bldg., Kansas City, Mo.; 620 S. 5th St., Architects & Bldrs. Exhibit Bldg., Louisville, Ky.; 1433 Oliver Bldg., Pittsburgh, Pa.; 7 North 6th St., Richmond, Va.

AMERICAN CYANAMID & CHEMICAL CORP., 30 Rockefeller Plaza, New York City. Sou. Office and Warehouse, 301 E. 7th St., Charlotte, N. C., Paul Haddock, Sou. Mgr.

AMERICAN ENKA CORP., 271 Church St., New York City. Sou. Rep., R. J. Mcbane, Asheville, N. C.

AMERICAN MOISTENING CO., Providence, R. I. Southern plant, Charlotte, N. C.

AMERICAN PAPER TUBE CO., Woonsocket, R. I. Sou. Rep., Ernest F. Culbreth, P. O. Box 11, Charlotte, N. C.

ARMSTRONG CORK PRODUCTS CO. (Textile Division), Lancaster, Pa. Sou. Office, 33 Norwood Place, Greenville, S. C. T. L. Hill.

ARNOLD, HOFFMAN & CO., Inc., Providence, R. I. Frank W. Johnson, Sou. Mgr., Box 1268, Charlotte, N. C. Sou. Reps., Robert E. Buck, Box 904, Greenville, S. C.; Harold T. Buck, 1615 12th St., Columbus, Ga.; W. Chester Cobb, Hotel Russell Erskine, Huntsville, Ala.

ASHWORTH BROS., Inc., Charlotte, N. C. Sou. Offices, 44-A Norwood Place, Greenville, S. C.; 215 Central Ave., S.W., Atlanta, Ga.; Texas Rep., Textile Supply Co., Dallas, Tex.

ATLANTA HARNESS & REED MFG. CO., Atlanta, Ga. G. P. Carmichael, Atlanta Office; Alabama, Georgia and Mississippi Rep., Barney R. Cole, Atlanta Office; North Carolina and South Carolina Rep., Dave Jones, Greenville, S. C.

BAHNSON CO., THE, Winston-Salem, N. C. North and South Carolina Reps., S. C. Stimson, Winston-Salem, N. C. Sou. Rep., I. L. Brown, 886 Brewery St., N.E., Atlanta, Ga. Northern Rep., F. S. Frambach, 703 Embree Crescent, Westfield, N. J. Western Rep., D. D. Smith, 906 W. Lovell St., Kalamazoo, Mich.

BANCROFT BELTING CO., Boston, Mass. Sou. Rep., Ernest F. Culbreth, P. O. Box 11, Charlotte, N. C.

BARBER-COLMAN CO., Rockford, Ill. Sou. Office, 31 W. McBee Ave., Greenville, S. C., J. H. Spencer, Mgr.

CHARLES BOND CO., 617 Arch St., Philadelphia, Pa. Sou. Reps., Harold C. Smith, Greenville, S. C.; Harold C. Smith, Jr., Greenville, S. C.; John C. Turner, P. O. Box 1344, Atlanta, Ga.

BORNE, SCRYMSEY CO., 17 Battery Place, New York City. Sou. Mgr., H. L. Siever, P. O. Box 1169, Charlotte, N. C. Sales Reps., W. B. Uhler, 608 Palmetto St., Spartanburg, S. C.; R. C. Young, 1216 Kenilworth Ave., Charlotte, N. C.; John Ferguson, 303 Hill St., LaGrange, Ga.

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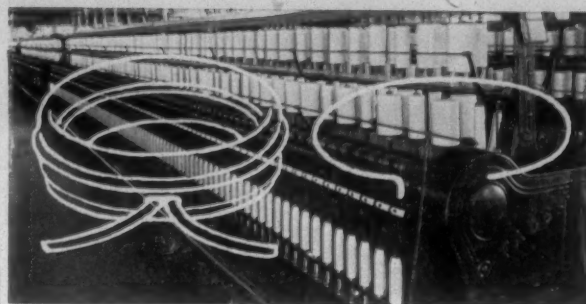
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